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SOCIAL FACTORS IN EDUCATIONAL ACHIEVEMENT AND ASPIRATIONS AMONG NEGRO ADOLESCENTS, VOLUME I. DEMOGRAPHIC STUDY.

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DEMOGRAPHIC CORRELATES OF EDUCATIONAL PERFORMANCE LEVELS WERE EXAMINED BY COUNTY IN THE 11 EX-CONFEDERATE SOUTHERN STATES TO FIND OUT WHETHER THE SAME VARIABLES PREDICT PERFORMANCE FOR BOTH NEGRO AND WHITE STUDENTS IN THE SAME WAY. DATA WERE DERIVED MAINLY FROM U.S. CENSUS REPORTS AND FROM MATERIALS OF STATE AND LOCAL DEPARTMENTS OF EDUCATION. PERFORMANCE MEASURES USED WERE SCHOOL ATTENDANCE RATES, AGE-GRADE RETARDATION RATES, DROPOUT RATES, AND COLLEGE ENTRANCE RATES. A WIDE RANGE OF POSSIBLE PREDICTOR VARIABLES WAS EXAMINED. DATA WERE ANALYZED FOR EACH STATE SEPARATELY AND THEN SUMMARIZED FOR THE ENTIRE REGION. THE BEST PREDICTORS OF THE LEVEL OF ABSOLUTE NEGRO AND WHITE PERFORMANCE WERE FOUND TO BE (1) "INTRARACE MEDIAN ADULT EDUCATION," (2) "PER PUPIL EXPENDITURE," AND (3) "POPULATION PER HOUSEHOLD." "MEDIAN EDUCATION," "EXPENDITURES," AND "PERCENTAGE IN AGRICULTURE" RANKED HIGH AS PREDICTORS OF THE RELATIVE PERFORMANCE OF NEGROES (COMPUTED AS A PERCENTAGE OF THE WHITE PERFORMANCE LEVEL). WITHOUT CONTROLS, "PERCENTAGE NEGRO" WAS ANOTHER GOOD PREDICTOR OF BOTH WHITE PERFORMANCE RATES (POSITIVELY RELATED) AND NEGRO RATES (NEGATIVELY RELATED). POOR PREDICTORS OF PERFORMANCE WERE (1) "PERCENTAGE URBAN" AND "POPULATION CHANGE," (2) "MEDIAN INCOME," AND (3) "FREQUENCY OF RACIAL VIOLENCE." POSSIBLE PRACTICAL APPLICATIONS OF THE FINDINGS WERE DISCUSSED. RELATED INFORMATION MAY BE FOUND IN ED 010 838. (JH)

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SOCIAL FACTORS IN EDUCATIONAL ACHIEVEMENT AND ASPIRATIONS AMONG NEGRO ADOLESCENTS

Volume I: Demographic Study

COOPERATIVE RESEARCH PROJECT NO. 1168

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1966

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CHAPTER I

INTRODUCTION

It is a well-established practice in sociology to utilize Census-type measures for predicting and explaining social phenomena. In the field of race relations, school desegregation,[1] voting behavior,[2] lynchings,[3] and economic discrimination[4] are among the phenomena for which demographic correlates have been found. Certain factors have consistently emerged as the best predictors of race-related behavior: the percentage of Negroes in the population, percentage urban, and various socio-economic indices, such as median income, median education, and percentage of (white) women in the labor force.

A study of educational performance and motivation among Southern adolescents -- focusing on racial differences -- can profitably begin with just such an examination of demographic correlates. We can ask these questions: What kinds of places tend to have high levels of educational performance? What kinds have low levels of performance? Are the distinctions between "good-performance" and "bad-performance" places the same for whites and Negroes, or are there racial differences?

To answer these questions, we must first choose the variables to investigate -- which measures of educational performance and which demographic and socio-economic measures. Decisions must also be made as to what population we wish to study and what geographic subdivision within the population we wish to use as our unit of analysis.

These latter problems are more easily resolved. We have chosen to study the eleven states of the Old Confederacy.[5] Besides our particular interest in Southern education, this decision is also based on the fact that state departments of education -- a most important source of data in a study such as this -- provide substantial amounts of information by race only in these states. We have chosen the county as the unit of analysis because it is the only subdivision which has all of the following desired characteristics:

1) It can be used to divide the entire Southern region into mutually exclusive and exhaustive units.[6]
2) The data of interest to us -- mainly available from the Census Bureau or state departments of education -- are generally provided for each county.
3) It is a sufficiently small unit to be considered relatively homogeneous; thus, data for it are more likely to reflect the county as a whole and not just the most important of disparate parts.
4) It is a unit that does not overlap across state boundaries. This enables us to look at each state separately.[7]

In this study we shall include only counties having a non-white population of at least 1,000. This is the minimum figure for which the 1960 Census provides data by race. Since we are interested in making racial comparisons and since many of our independent measures intended to predict school performance are derived from Census data, we must accept their cutting point as the criterion for exclusion of counties from our sample.

We must now ask what kinds of information are to be used for each county? First, there are the dependent variables -- the indices of scholastic performance. Four types of performance variables have been selected to represent the full range of available data. These are as follows: (In the next chapter we shall describe the specific ways each variable has been measured.)

1) Percentage of pupils in average daily attendance. This is a measure of commitment to education on the part of pupils. Where the commitment is high, where the eagerness to learn is prevalent, the attendance rates should be high.

2) College entrance rates. Here we have an index of behavior directed towards the goal of higher education. High levels of performance on this measure denote a community whose youth are motivated to use the means necessary for entering high status occupations.

3) Scholastic non-retardation rates. This is our best available statistical index of performance of pupils while in school. Although standards and promotion policies will vary greatly, in general we can assume that a higher promotion rate and a smaller percentage of pupils behind their age-group in school mean a better job of learning on the part of students.

4) Pupil retention rates. This is an attempt to assess the prevalence of dropouts in the county. Where the percentage of pupils dropping out of school before graduation is highest, we have greatest evidence of wastage of human resources which, in our increasingly specialized society, require at least high school training to be utilized fully.

As with the performance variables, our choice of possible predictors of performance is limited by the availability of data. In fact, as mentioned before, it has been feasible to use just two main sources of information, the Census and state departments of education. The selected types of data can be classified into four broad categories: demographic, general socio-economic, "educational" (i.e., indicating local support for education), and "race relational" (i.e., reflecting local race relations). Following is a list of the specific variables chosen for their possible relationship with the measures of educational performance. The exact measures used will be discussed in the next chapter.

Demographic Variables

1) County population.
2) Percentage of population living in urban areas.
3) Population change, 1950-1960.
4) Percentage of Negroes in the population.

General Socio-economic Variables

1) Percentage of work force in manufacturing.
2) Percentage of work force in agriculture.
3) Percentage of work force employed in non-farm white-collar jobs.
4) Percentage of work force employed in blue-collar jobs.
5) Number of persons per household.
6) Percentage of persons under 18 living with both parents.
7) Median income.
8) Median education.
9) Percentage of adults with some college education.

Educational

1) Per pupil expenditure.
2) Pupil-teacher ratio.
3) Percentage of teachers with at least a bachelor's degree.

Race Relational

1) Percentage of age-eligible Negroes registered to vote (by itself and as a percentage of the white registration rate).
2) Number of lynchings of Negroes, before 1920 and 1920-61.
3) Number of recent acts of racial violence, 1955-60.

Taken together, data for these variables go a long way towards describing the county unit. They tell us how urbanized the county is, how much its population is growing, and the racial composition of the population. In addition, they provide us with information about the economic structure and well-being of the county and about the stability and socio-economic status of its families. They also indicate the attention given to schools by the local populace. And, finally, they reveal the state of race relations in the county.

Most of our predictions of the relationships between these and the performance variables border on what might be considered the obvious. But there is recognized scientific merit in testing whether the "obvious" is actually true. Real understanding of social phenomena often comes only after popular views are recognized as misperceptions.[8] In some cases, our initial predictions of relationships have been derived from previous theory and research. But in large part, these predictions are hunches that have been based on their reasonableness in the light of current knowledge; we have been prepared to see our expectations overturned. At any rate, these predictions require formal statement and some elaboration before we can proceed.

Hypotheses Involving Demographic Variables

We would expect that the more urban, more populous counties will show relatively high educational performance. Likewise, the faster growing counties (coinciding, in large part, with the more populous ones) should have high performance levels. Where communities are large and growing, the scope of opportunities for youth -- the incentive to develop one's mental capacities -- should elicit stronger endeavor in the public schools.

The most direct support for these hypotheses comes from previous findings of an association between urbanism and college entrance,[9] between urbanism and median education of adults,[10] and between urbanism and per pupil expenditure.[11]

Corroboration can also be derived both from general impressions and from other previous findings indicating a great involvement of the urban population in the mainstream of society. Industry and commerce have predominately urban orientations, and both generally require of participants a level of training above that needed by most persons in rural occupations. Also, the fact that wealth tends to concentrate in growing, urban localities should mean greater resources available for education in these communities. With greater resources should come more successful results. And finally, we might draw some indirect support from earlier demographic studies that have shown urbanism to be correlated with such indices of progressiveness (presumably correlated, in turn, with better education or at least with more interest in improving education) as faster desegregation,[12] lower lynching rates,[13] greater social mobility,[14] and lesser political conservatism.[15] Moreover, it would seem that larger urban communities are most likely to lead the way in programs to improve health, raise wage standards, reduce intergroup conflict, and up-date the school system to cope better with modern needs of students and society.

These programs would all seem to indicate the kind of community more conducive to learning among youth.

As for the demographic variable of percentage Negro (race ratio), there are somewhat contradictory guides to using it in hypotheses. We have ample evidence that the fate of Negroes in an area tends to be poorer where the percentage of Negroes is higher -- particularly when the degree of urbanism is controlled for.[16] But the effect of race ratio on the white population is not clear. On the one hand, there is the claim that the areas of greatest Negro concentration tend to be socially and economically depressed in general. The Negroes are not well off in these places and the whites suffer, too, as a consequence. It is often stated that a rise in the standard of living of the Negroes would result in improved social conditions for all; for example, the added purchasing power from a fully employed and more highly paid Negro group would mean improvement in the total economy. It is an easy step to conclude from this that the depressed, heavily Negro areas will have relatively unsuccessful school programs for both races.

But some of the evidence may actually run counter to this conclusion. We refer here to the findings of greater racial discrimination where the percentage of Negroes is higher.[17] These would indicate that whites in such areas will not be at a disadvantage -- at least relative to the Negroes in the same areas and perhaps even relative to whites elsewhere. Thus, we might predict that the percentage of Negroes in a county will be negatively related to the educational performance of Negroes in the county, but positively related to at least the relative performance of whites. We cannot have any firm expectations on how the absolute performance of whites relates to the race ratio.

Hypotheses Involving General Socio-economic Variables

The association of certain socio-economic variables with educational performance, using data for individuals rather than areas, has already been established. With higher family income, higher occupational status (as measured by the percentage of white-collar workers among the employed), and greater parental education comes greater success for children in school.[18] A positive association might also be expected between educational performance and family stability as measured by the percentage of children living with both parents, although to our knowledge, this association has apparently not yet been demonstrated in research.[19]

Two variables expected to adversely affect performance are family size and the percentage employed in agriculture. The latter is simply the other side of the previously discussed variable of urbanism. The former, family size, is a factor which has been found to increase as a function of lower socio-economic status. Its effects on school-related behavior, therefore, should be the opposite of the effects of status; that is, where family size is greater the performance of children in school will tend to be lower. This can be attributed directly to the lessened emphasis on academic achievement in lower-status families as well as to decreased individualized attention to their children on the part of parents of large broods.

Finally, we can find good arguments to support contradictory hypotheses with regard to our two remaining socio-economic variables, percentage employed in manufacturing and percentage employed in blue-collar jobs. Both factors would seem to be related to low socio-economic status which we have already tentatively associated with low educational performance. At the same time, both factors should also be related to the degree of urbanness of a county.[20] In this respect, the more urban (more industrial, more blue-collar) places should display higher levels of performance. Perhaps our prediction here should be for a negative relationship between the two variables and performance after urbanism is controlled for. We shall avoid any hypotheses concerning the direction of the relationships at the simple zero-order-correlation level of analysis.

Hypotheses Involving Educational Variables

Though perhaps not previously examined systematically, certain hypotheses seem obvious with regard to the variables indicating local support for education. Specifically, we should expect educational performance to be higher where per pupil expenditures are higher, where there are fewer pupils per teacher, and where teachers themselves are better educated. In other words, where the school system is relatively good -- as indicated by strong community financial backing which, in turn, results in better teachers having better working conditions -- the product of the system should also be good.

Hypotheses Involving Race-Relational Variables

Up until now, with one or two exceptions, the independent variables discussed have been expected to act in similar fashion on both whites and Negroes. Racial differences in performance levels can then be attributed mainly to racial differences in these predictor variables. But this last set of factors -- reflecting local race relations -- would seem most pertinent only for predicting school behavior of Negroes. These variables can be viewed as possible determinants of Negro performance, while they are not likely to serve the same purpose for whites. For the latter, at the very best, these same variables can be seen as indicators of white culture and only indirectly as correlates of motivation and achievement among white youth.

In line with this reasoning, we would expect to find a positive relationship between Negro school performance and Negro voter registration. But we can only hesitantly make this prediction concerning the association of white performance with this same factor. Also, lynchings and racial violence ought definitely to be negatively associated with Negro performance and possibly related in a negative way to white performance.

This means we predict better school performance for Negroes where race relations are relatively good; the freer atmosphere of such communities should contribute to greater motivation -- to less inhibition or outright suppression of mental activity. If whites do better in schools in the same places -- and we think they might -- it will not be because of a lack of suppression, but because of the greater progressiveness of their culture (as indicated by the greater freedom permitted the Negro subordinate group).

Summary of Hypotheses

Following is a summary list of the hypotheses stated in the preceding pages. Unless otherwise noted, these apply to both races.

1) County population is positively related to school performance.
2) The percentage of the population living in urban areas is positively related to school performance.
3) Population increase is positively related to school performance.
4) Race ratio (the percentage of Negroes in the population) is negatively related to Negro educational performance and positively related to the relative performance of whites and possibly to absolute white performance, as well.

5) Family income is postively related to school performance.

6) The percentage of non-farm white-collar workers in the total labor force is positively related to school performance.

7) Median education of adults is positively related to school performance.

8) The percentage of adults with some college education is positively related to school performance.

9) The percentage of children under 18 living with both parents is positively related to school performance.

10) Family size is negatively related to school performance.

11) The percentage of the labor force employed in agriculture is negatively related to school performance.

12) The percentage of the labor force employed in manufacturing is negatively related to school performance, when the degree of urbanism is controlled.

13) The percentage of blue-collar workers in the total labor force is negatively related to school performance, when the degree of urbanism is controlled.

14) School expenditure per pupil is positively related to school performance.

15) The percentage of teachers with at least a B.A. degree is positively related to school performance.

16) The number of pupils per teacher is negatively related to school performance.

17) The extent of Negro voter registration is positively related to school performance for both races (though the prediction is made more confidently for Negro children).

18) Frequency of lynchings is negatively related to school performance for both races (definite prediction only for Negroes).

19) Frequency of recent acts of racial violence is negatively related to school performance for both races (definite prediction only for Negroes).

These are the simple predictions of how each of our selected independent variables relates to school performance. We shall be interested in testing each of these basic hypotheses particularly to see under what conditions (or controls) they are most and least substantiated. But there is an additional goal of this demographic and ecological analysis -- to test the utility of a multivariate model for predicting educational performance. In other words, we shall not only look for single correlates of performance, but we shall also be seeking to select a small group of these independent factors which, taken together, might do a more powerful job of predicting academic success. We shall be looking for the best possible combination of variables to attain this goal of prediction.

An Additional Introductory Note

We need to emphasize the fact that we are testing hypotheses about ecological areas and not about individuals. In this report, we shall be interrelating characteristics of areas -- namely, counties -- as measured by averages, percentages, and medians. The relationships found will not necessarily hold true also for the association of characteristics within individuals. For example, if we find that counties with higher median incomes have higher educational performance rates, it will not necessarily mean that children of wealthier parents will do better in school. In other words, we are using ecological data and are interested in ecological predictions, but, of course, we also hope that some inferences can be made about characteristics of individuals.

This problem is one recognized by W. S. Robinson in 1950.[21] There are occasions when correlations obtained from ecological data are grossly different from the association of variables for individuals in a population. For instance, it is possible for crime rates to be highest where there are larger numbers of a particular ethnic group, and yet the crimes may not be caused by members of this particular group. Thus, ecological data could lead us to make wrong conclusions about the association of crime and ethnicity. This difference between individual and ecological correlations is a function of the amount of variability within areas compared with variability between areas. In our cases, the variability of most characteristics between areas is relatively high, so that the likelihood is strong that the ecological findings will reflect roughly the relationships of variables among individuals. This likelihood is certainly great enough to encourage the use of resources at hand (the available ecological data) rather than our having to collect large quantities of new data for individuals.

Furthermore, the ecological area is of importance by itself. For some purposes, it is enough to know how variables relate at the ecological level. This is true when our purpose is either to predict gross areal behavior or to locate specific "problem areas" (without regard to who in the area are causing the problems). If we learn that percentage Negro is negatively related to rate of desegregation, it will help predict the order in which counties will desegregate their schools. Similarly, if we learn that school performance is lower in areas where median family income is lower, we have learned something of importance, even if income itself does not affect motivation and academic achievement; we have found a shorthand key to identifying the kinds of places where school performance needs to be elevated.

Thus, we have to recognize that ecological relationships may not be valid for the population taken individually. But we shall be willing to accept at least some of these relationships as a basis for interpretation at the level of individuals. Basically, we hope to improve our power to predict area rates of performance, whatever may be the relationships of variables among individuals.

Chapter I, Footnotes

1. See T. F. Pettigrew, "Demographic Correlates of Border-State Desegregation," American Sociological Review, 22 (December 1957), 683-689; T. F. Pettigrew and M. R. Cramer, "The Demography of Desegregation," The Journal of Social Issues, 15 (No. 4, 1959), 61-71.

2. See V. O. Key, Southern Politics (New York: Alfred A. Knopf, Inc., 1949); T. F. Pettigrew and E. Q. Campbell, "Faubus and Segregation: An Analysis of Arkansas Voting," Public Opinion Quarterly, 24 (Fall 1960), 426-447; W. E. Ogburn and C. M. Grigg, "Factors Related to the Virginia Vote on Segregation," Social Forces, 34 (May 1956), 301-308; D. M. Heer, "The Sentiment of White Supremacy: An Ecological Study," The American Journal of Sociology, 64 (May 1959), 592-598; D. R. Matthews and J. W. Prothro, Negroes and the New Southern Politics (New York: Harcourt, Brace and World, 1966).

3. See Commission on the Study of Lynching, Lynchings and What They Mean (Atlanta: Commission on the Study of Lynching, 1931); A. F. Raper, The Tragedy of Lynching (Chapel Hill, N. C.: University of North Carolina Press, 1933).

4. Some examples are: H. M. Blalock, "Economic Discrimination and Negro Increase," American Sociological Review, 21 (October 1956), 584-588; H. M. Blalock, "Per Cent Non-White and Discrimination in the South," American Sociological Review, 22 (December 1957), 677-682; S. C. Drake and H. Cayton, Black Metropolis (Harcourt, Brace & Company, 1945), Ch. IX; D. Dewey, "Negro Employment in Southern Industry," Journal of Political Economy, 60 (August 1952), pp. 285 ff.; R. C. Weaver, Negro Labor (New York: Harcourt, Brace & Company, 1946); G. Myrdal, An American Dilemma (New York: Harper & Bros., 1944).

5. These are Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

6. The only exception to this occurs in Virginia where cities exist completely independent and outside of counties. We have met this problem in Virginia by redefining county boundaries to include interior or adjacent cities. In general, no data problems have arisen from the combining of city and county statistics.

7. We shall see the value of this feature when we discuss state differences in the measurement of variables in Chapter II.

8. No better support for this notion can be found than P. F. Lazarsfeld classic "The American Soldier -- An Expository Review," Public Opinion Quarterly, 13 (Fall 1949), 377-404.

9. R. F. Berdie, After High School -- What? (Minneapolis: University of Minnesota Press, 1954), pp. 58-59.

10. L. F. Schnore and D. W. Varley, "Some Concomitants of Metropolitan Size," *American Sociological Review*, 20 (August 1955), 408-414, and L. F. Schnore, "Some Correlates of Urban Size: A Replication," *American Journal of Sociology*, 69 (September 1963), 185-193. O. D. Duncan does *not* reach this conclusion from data appearing in "Optimum Size of Cities," in P. K. Hatt and A. J. Riess, Jr. (eds.), *Cities and Society*, rev. ed. (Glencoe: The Free Press, 1956), pp. 759-772. Duncan, however, uses the 1940 Census as his source, while Schnore and Varley use 1950 and 1960 data.

11. O. D. Duncan, "Optimum Size of Cities," *op. cit.*

12. Pettigrew, "Demographic Correlates of Border-State Desegregation," *op. cit.*

13. E. F. Young, "The Relation of Lynching to the Size of Political Areas," *Sociology and Social Research*, 12 (March 1928), 348-353.

14. S. M. Lipset, "Social Mobility and Urbanization," *Rural Sociology*, 20 (September-December 1955), 220-228.

15. H. W. Beers, "Rural-Urban Differences: Some Evidence From Public Opinion Polls," *Rural Sociology*, 18 (March 1953), 1-11; Key, *op. cit.*, p. 673.

16. Pettigrew and Cramer, *op. cit.*; Blalock, *op. cit.*

17. Blalock, *op. cit.*; S. M. Dornbusch and R. D. Irle, "The Failure of Presbyterian Union, *The American Journal of Sociology*, 64 (January 1959), 352-355.

18. A sampling of such research includes P. C. Sexton, *Education and Income* (New York: Viking Press, 1961); R. A. Mulligan, "Socio-Economic Background and College Enrollment," *American Sociological Review*, 16 (April 1951), 188-196; A. B. Hollingshead, *Elmtown's Youth* (New York: John Wiley & Sons, Inc., 1949); Educational Testing Service, *Background Factors Relating to College Plans and College Enrollment Among Public High School Students* (Princeton, N. J.: Educational Testing Service, 1957); W. H. Sewell, A. O. Haller, and M. Straus, "Social Status and Educational and Occupational Aspirations," *American Sociological Review*, 22 (February 1957), 67-73.

19. In a publication by the National Education Association of the United States, "High School Dropouts," rev. ed. (Washington, D. C.: National Education Association of the United States, September 1959), such relationship is stated to be true, but at least one study can be cited that does not support this. This is F. I. Nye, "Child Adjustment in Broken and Unhappy Unbroken Homes," *Marriage and Family Living*, 19 (November 1957), 356-361.

20. Even though the blue-collar measure will include farm laborers.

21. W. S. Robinson, "Ecological Correlations and the Behavior of Individuals," American Sociological Review, 15 (June 1950), 351-357.

CHAPTER II

MEASUREMENT AND METHODS OF ANALYSIS

In this chapter, we shall describe how each of the study variables has been measured, identify the sources of information, and examine certain problems and limitations stemming from the data. We shall close the chapter with a description of the procedures to be employed in the analysis.

First, we must note one feature of our handling of these variables. Some of the measures have been used for the entire population; some, for each race separately; some, for Negroes only. Moreover, we shall sometimes use the ratio of the measure for Negroes divided by the same measure for whites as an index of the relative standing of the races on a particular variable. The major considerations determining which form or forms that we use of a variable are the following:

1) What information was available by county at the time that we gathered our data in late 1961 and early 1962;
2) What information was needed to serve our main interest in examining the correlates of Negro educational performance -- data for whites were to be used primarily only as a base for comparison; and
3) What information held promise of being useful to our purpose of prediction -- for this we had previous studies and our own powers of reasoning to draw upon.

Chart A at the close of this chapter summarizes the sources and coverage of the variables used in this study.

Dependent Variables

We shall open our discussion of measurement procedures by turning to the dependent variables: (1) average daily attendance rates (ADA), (2) college entrance rates, (3) scholastic non-retardation rates, and (4) pupil retention rates.

Average Daily Attendance Rates

These statistics are from published and unpublished reports of departments of education in the eleven states of our study. The ideal way to compute this is to divide average daily attendance (ADA) by average daily membership (ADM). The latter is the year's average of each day's enrollment. It takes into account fluctuations in the enrollment which occur during the year. However, because four of the states do not collect information on ADM, the figures used are for "net enrollment" for all states except Virginia, where these latter figures are unavailable and ADM is used. "Net enrollment" refers to the number of all those who are registered at least once in the school system. Persons who leave a school in the system and then re-enter the same or another school in the system (during the same year) are counted only once. The net enrollment total is never smaller, and usually larger, than ADM. The numerical difference is because of those enrollees who are not "members" for the entire year. All data for this measure are for the 1959-60 school year.

Percentage of High School Graduates Going on to College

This measure is calculated on the basis of a three-year average because of frequently sizable annual variations. It is computed as the number of college entrants from a county (as noted in school system files on individual students) divided by the number of high school graduates. Two problems arise because of (1) unavailability of the data for some states or for some counties in other states and (2) differences in which years are used.

The data are completely unavailable for Tennessee. In Texas we have used rates on the number expecting to go to college, rather than actual entrance rates. In most states, the information is available in either published or unpublished form from the state departments of education. But in Alabama, Arkansas, and Florida, it was necessary to gather the information directly by mail from the local school systems. In these states, our best efforts failed to obtain statistics for 20-30 percent of the counties. Both Virginia and Georgia collect college entrance data, but here, too, there are some localities not reporting for one or more years -- the percentage of non-reporting is below 10 percent. In these cases, rates have been based, wherever possible, on two-year averages. Or another year has been used for the third year for purposes of averaging. In addition, the number of high school graduates is unavailable for Georgia, and 12th grade enrollment has been used as a substitute in the denominator of the computation formula. This leaves only the states of North Carolina, Louisiana, South Carolina, and Mississippi with complete coverage on this item.

As for the years for which data are used, 1958-60 are the years for North Carolina, South Carolina, Mississippi, Louisiana, and Virginia. For Georgia, Texas, Alabama, Arkansas, and Florida, the three-period 1959-61 is used.

Scholastic Non-Retardation Rates

In general, our definition of "retarded" refers to those whose age is seven or more years greater than their grade in school -- e.g., eight-year-old first-graders, nine-year-old second graders, etc.[1] Again, the basic data, for the most part, are obtained from the state departments of education. To compute non-retardation rates, we divide the number not retarded by the total enrollment. However, several deviations from this intended measure have been necessitated:

1) Age-grade data are unavailable for Mississippi, South Carolina, and Tennessee. As a substitute in two states, we have used

the percentage of enrolled pupils who are promoted. A three-year average (1958-60) is used for Tennessee, but Mississippi data are available only for 1961. No substitute was possible for South Carolina.

2) The information from Louisiana is not in "age-grade" form. This state uses "grade-progress" reports instead. Actually, these reports allow an improved measure of retardation (as compared to age-grade distribution), because they give information on how many years pupils in each grade have been in school, rather than the pupil's age (from which length of time in school must be inferred).

3) In some states where data are available, there is not complete coverage of all counties. This has occurred in the three states where it was necessary for the researchers to collect the information directly by mail from the local school districts of Alabama, Arkansas, and Florida.[2] Even with follow-ups, the response rate reached only about 75 percent in each of the three states. Mississippi promotion statistics also required a special collection, this handled by the state department of education. Here, too, coverage was incomplete -- at about the 80 percent mark.

4) In Georgia, for the "number retarded" we have used all pupils whose age is six or more years greater than their grade in school. The reason for our using the six-year figure in Georgia is simply that this is the form in which the data were recorded. The result is a larger number of pupils being recorded as "retarded" in this state.

5) There are differences among the states as to what date is used for calculating ages on age-grade distribution charts. These differences, of course, cause differences in the numbers of those who are considered retarded. A first-grader who becomes eight years old on October 1 will be considered as "retarded" if the base date is November 1, but not if it is September 1. Within-state comparisons do not suffer from this base-date variation, but between-state comparisons do. Most states use September 1 as their base date. Our records indicate that Virginia and North Carolina are exceptions, using November 1. But even where base dates are identical, states may differ in the birthdate deadline for being eligible for entry into school. For example, one state may allow any child who will be six by January 1 to enter the preceding September. Another state may use November 1 for "cut off" date. Of course, such differences -- which we know exist but do not have record of -- also cause differences in retardation rates.

6) Our age-grade data -- and equivalents -- have not all been computed for the same school years. The Louisiana data are for 1954-55 and Texas data are for 1955-56, the last years such information was collected in those states. North Carolina and Virginia data are for 1959-60; Alabama, Arkansas, and Florida's are for 1961-62; Mississippi and Georgia's are for 1960-61; and Tennessee's are for the three years of 1957-58, 1958-59, and 1959-60.

Most of these difficulties mentioned above with respect to retardation data are obstacles to inter-state comparisons. But relationships within a state can still be studied as long as the statistics from within a state are derived similarly.

Pupil Retention Rates

Three different measures have been utilized as indexes of retention. All attempt to reflect the holding power of a school system -- the ability of the system to keep its students through all 12 grades.

Ideally, the best way to measure the dropout rate would be to divide the number of high school graduates during a given period by the sum of graduates plus those in the same age cohort who left school without graduation. Unfortunately, data are not available for this kind of index. To compute this, we would have to follow the age cohort from 1st to 12th grade, and we would have to make adjustments for persons who skip or fail grades and for in- and out-migrants. Our indices of the dropout rate had to represent compromises with this ideal.

One measure is drawn from information collected by the state departments of education; the other two, from United States Census statistics for 1960. The first measure is computed as the overall ratio of 12th-grade enrollments to 5th-grade enrollments for a three-year period. The number of 5th-graders may not be an accurate estimate of the size of the present 12th-grade cohort seven years before. But we are ready to assume tentatively that a county with a relatively high 12/5 ratio does actually retain a larger proportion of its pupils than does a county with a low 12/5 ratio.

The three-year average is used, rather than data for just a single year, in order to limit the effects of chance fluctuations due to unusual birth or migration patterns in a particular year. Normally, the three years used are 1957-58, 1958-59, and 1959-60. However, in Georgia, and Texas the three years are 1957-58, 1959-60, and 1960-61; in Louisiana 1958-59, 1959-60, and 1960-61.

The second dropout index, derived from Census data, is computed as the ratio of pupils enrolled in high school (9th, 10th, 11th, and 12th grades of public and private schools) divided by the total population, ages 14 to 17. Again, we do not have a perfect match between the definition of base population and the population to which high school enrollees belong. But again, we feel confident that a higher ratio (more enrollees relative to the 14-17 population) indicates less dropping out.

The final index is similar to the one just discussed. In fact, it has the same numerator (the number of high school enrollees), but this is now divided by the number of elementary school enrollees (grades 1 to 8). This measure, like the one taken from state-department-of-education data decreases in validity to the extent that we cannot assume fairly constant birth rates for all localities for any given year. But given this assumption (which we are prepared to make), a higher ratio (relative to other counties) should mean a lower dropout rate for the county.

The two Census-based dropout measures have advantages over the other performance indices. First, there is uniform definition of terms for all states and counties. Second, data are available for all places -- and for the same point in time, April 1960. And third, the data apply to all pupils, not just those in public schools. With the other measures, we have had to take what we could get, with the result of diminished comparability of data, particularly across state lines.[3] (We shall return to this problem later in the chapter.)

Independent Variables

In discussing our measures of independent variables, we shall use the same groupings employed in the opening chapter. Whereas most of the performance measures were derived from state and local school statistics, we shall see the vast majority of predictor measures being derived from Census materials, although a few other sources -- including the state departments of education -- are also used.

Demographic Variables

All of these measures are from the 1960 Census, with one exception. County population is simply the number of inhabitants counted by the Census in April 1960. The percentage of population living in urban areas is computed by dividing the total county population into the number living in places of 2,500 or over or in Census-defined "urbanized areas" (contiguous with large cities).

Population change is defined as the percentage increase or decrease in population between 1950 and 1960; in other words, the difference between 1950 and 1960 populations divided by the 1950 population.[4]

And finally, the percentage of Negroes in the population is used for both 1960 and 1900 (to see if historical population conditions are as important as present conditions for prediction purposes). Where a county has other races besides whites and Negroes, only the latter two groups are used as the base in the percentage in 1960,[5] in order to indicate more sharply the relative numbers of Negroes as compared to the dominant whites. Thus, our 1960 measure of race ratio is obtained by dividing the number of Negroes by the number of Negroes plus the number of whites in each county.

General Socio-economic Variables

All variables here, too, are measured by Census data. In this case, only 1960 figures have been used. All calculations are quite straight forward.

There are four variables having to do with the work force: percentage in manufacturing, percentage in agriculture, percentage in non-farm white-collar jobs, and percentage in non-farm blue-collar jobs. The base for each of these percentage measures is the number of employed men and women whose occupations are reported in the Census. Only the numerator varies from measure to measure. In the first case, we use the number employed in manufacturing; in the second, the number employed in agriculture. The number engaged in non-farm white-collar jobs is the sum of all those employed as professional, technical, and kindred workers; managers, officials, and non-farm proprietors; and clerical and sales workers. The number engaged in blue-collar jobs includes all those employed as craftsmen, foremen, and kindred workers; operatives; private household workers; service workers, farm laborers (except unpaid family members), and other laborers.

Number of persons per household is easily computed by dividing the number of households into the number of persons residing in households (as opposed to group quarters).[6]

Our measure of family stability, the percentage of children under 18 living with both parents, is derived from the ratio of children under 18 with both parents divided by the total number of children under 18 in the county. Here, the term "parent" includes stepparents and adopted parents, as well as natural parents. In other words, as long as a child is living with persons considered his mother and father -- whether his real parents or not -- he would be included in the numerator of this percentage.

Median family income is defined as that amount (in dollar income) which divides the distribution of incomes into two equal-sized groups, one having incomes above the median and the other having incomes below. Three caveats must be stated:

1) A family consists of two or more persons living in the same household who are related to each other by blood, marriage, or adoption; thus, occasionally more than one nuclear family might be treated together as a single family (e.g., two brothers with wives and children or father and son with wives and children) -- the listed income would be unrepresentative of the living standard of either family.
2) Since family sizes are different -- even when only one nuclear family is involved -- income has its shortcomings as an index of living standard in general.
3) Income data are for money income only; such remuneration as free housing or goods (such as those produced and consumed on a farm) are not included, with the result of some distortion, particularly for farm families.

The measure of median education is for all adults 25 years old and over. Again, the median refers to that value which divides the population in half -- one group having completed more schooling and the other group having completed less schooling. In order to compute the median in terms of years of schooling (and in order to interpolate between whole years), an assumption must be made of an even distribution throughout each year category; that is, of those reporting 8 years of schooling, 1/12 had completed 8.0 years, 1/12 had completed 8.1 years, and so on. The effect of this assumption, according to the Census Bureau, is to place the median for younger persons slightly below and for older persons slightly above, the true median. These two distortions are just about cancelled out in our data which treats the entire adult population.

The final socio-economic variable is another education measure, the percentage of adults with some college education. This is computed by dividing the number of persons 25 and over into the number of these persons who had completed at least one year of a regular four-year college or of a junior or community college. Persons who attended a college, but for less than one year, are not included in the numerator.

Educational Variables

All three of these indices of local support for schools use data obtained from state departments of education. And like the dependent (performance) measures from the same sources, problems arise affecting the comparability of data across state lines. This is especially true for two of the variables, per pupil expenditures and teacher education, because of the unavailability of the data in some states.

Only the measure of pupils per teacher is available for all eleven states. This is computed by dividing the number of teachers in a county into the total number of pupils. The school year used is 1959-60. But even here there are some differences from state to state in the way the measure is computed.

First, for the number of pupils in a county, net enrollment is used in all states, except Virginia where average daily membership is used instead. Also, we have tried not to include non-teaching principals and librarians in the total of teachers. But in some places (Georgia, Texas, and Louisiana) it has been impossible to exclude them, and in other places, persons in these roles may be included without our knowledge. This is not too great a problem, however, since the possible limits of error are generally quite small.

Another difficulty of the same magnitude stems from the fact that in some places, (how many, we're not sure) teachers, like pupils, are counted once during the year, regardless of length of service. Thus, a class which has two different teachers during the year -- each, say, for 4 1/2 months -- contributes 2 to the total of teachers in a county, even though the pupils receive only one teacher's worth of instruction. Some places, to guard against this error, commit themselves to another potential source of bias by listing the number of "teaching positions." This avoids multiple counting of teachers who consecutively occupy the same position, but these figures may be somewhat inflated over the actual number of teachers because of staff vacancies. None of the states uses what would be the ideal measure of the number of teachers: the average daily teaching force.

Per pupil expenditures, wherever possible, have been computed as the ratio of current operating costs divided by the total enrollment. In Georgia, Mississippi, and Virginia, average daily attendance has replaced enrollment in the denominator. The school year used in every case is 1959-60.

Difficulties arise from differences in the definition we have had to use for "current operating expenditures" from state to state. The intention has been to include costs of instruction, administration, maintenance, library, and transportation, with capital improvements excluded.

In a few cases, however, we suspect that capital improvements may have been added into current costs in local school records. Also, in the racial breadkdown of expenditures (needed to look at the effects of this variable for each race separately), it is probable that some arbitrary assignments of costs to one race or the other have been made in local reports.[7] Moreover, several states provide only an incomplete -- or even no -- racial breakdown of costs. No figures by race are available for Florida, Tennessee, or Texas. And in Alabama, Louisiana, and Virginia, only instructional costs are listed separately by race. While we have used the incomplete data in the latter three states, the impression is strong that teachers' pay is the area of least racial difference, as compared to other parts of the local school budget.

The final independent variable involving the school system is the index of teacher competence -- the percentage of teachers with at least a bachelor's degree. This is computed by dividing the number with at least a B.A. by the total number of teachers. Such data are unavailable for Texas, Florida, and North Carolina. In Georgia and Louisiana, non-teaching principals and librarians have been included in the total of teachers. Also, as with the pupils per teacher ratio, there is some question about the preciseness of our measure of the number of teachers -- sometimes the number of teaching positions has had to be used in the denominator. One other small difficulty with this particular item is that persons with "equivalent qualifications" are apparently included in the total of B.A. degree holders. It is not clear just what "equivalent qualifications" means, but it seems that there is consistency in meaning at least within states so that only between-state comparisons may suffer.[8]

Race Relational Variables

These data come from a variety of sources, most of which probably do not measure up to the reliability standards of the Census.

The percentage of age-eligible Negroes registered to vote is from official estimates of county registration and population supplied in published and unpublished form by the United States Commission on Civil Rights. The data year is 1959. The percentage is computed by dividing the number of Negro registrants by the estimated 1959 Negro population 21 years and over. Data are available for only 17 (of 48) counties in Tennessee, and there is an unknown degree of unreliability in the estimates for other states, depending on permanency of registration as well as on availability of official registration records by race (from which the best estimates, of course, could be made).

The data on Negro lynchings come from published and unpublished statistics compiled by the Tuskegee Institute. Measurement is in terms of the total number of lynching deaths. We have divided the data into pre-1920 and 1920-and-after periods in order to look for the separate effects (if they are different) of earlier and relatively more recent events. Data for the latter period are probably very accurate, but for the earlier period some question of reliability arises because of poor record keeping and communications then.

As for the number of recent acts of racial violence, another index of recent race relations, the measure is a composite of information derived from three sources for the time period between January, 1955, and June, 1960. It is a single count of all events of racial violence reported during that time. The original compilation was not done for this study, but for the study by Prothro and Matthews on Negro political behavior in the South. The sources of their information were the New York Times Index; Facts on Film (Southern Educational Reporting Service); and Intimidation, Reprisal and Violence in the South's Racial Crisis (published jointly by the Southeastern Office, American Friends Service Committee, Department of Racial and Cultural Relations of the National Council of Churches of Christ in the United States, and the Southern Regional Council). Again, there are definite problems recognized with these data because of gaps in the information -- gaps that one might expect to be particularly troublesome in rural areas where violence can be committed with less risk of publicity.

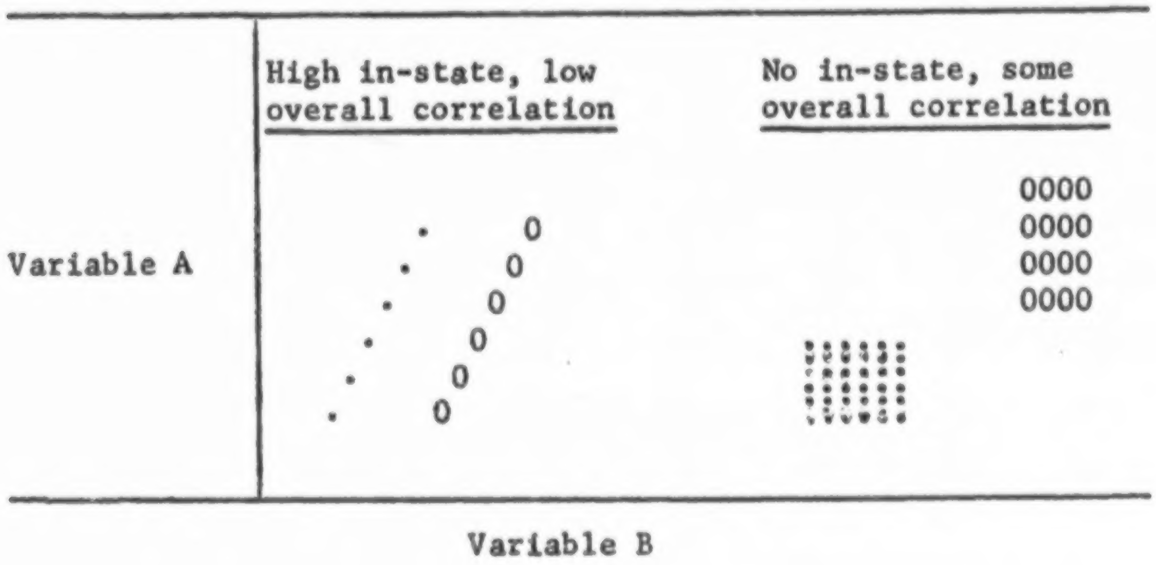
* * * * * *

These, then, are the derivations of the measures used to index and to predict school performance. As has been noted from time to time, there is not always comparability in the method of computing some of these measures. However, most of the inconsistencies occur across state lines; that is, the same computation formula can be used for all counties in one state, but it may have to be modified for the counties of another state. This makes for non-comparability of the data from state to state. As just one example, our figures for Negro per pupil expenditure in Alabama include only the costs of instruction. Thus, we cannot compare these data to those for Negro per pupil expenditures in North Carolina where all costs are included.

How does this affect our approach to the analysis of data? It seems to preclude the possibility of treating all counties together in a unitary analytical system. Our chief method of analysis will be to use product moment correlations to measure the relationships among variables. But as the scattergram in Figure 1 illustrates, even if two variables were perfectly correlated within a state, the overall correlation for all states could be much lower. Also, when two variables are unrelated within states, some overall correlation could still show up. In either case, we would be misled if we accepted the gross correlation as indicative of the true degree of relationship. The only reasonable alternative, then, is to compute our correlations for each state separately -- making eleven replications of the examination of each relationship -- and then, in some way to summarize the results for the entire region.

Since there are no established rules on how to summarize such data, we shall be forced to improvise. Foremost among our procedures will be to compute mean correlations, for each of the relationships under examination. These means will be weighted according to the number of counties studied in each state. While we cannot apply tests of significance to such weighted mean correlations, the results do offer a basis for at least intuitively judging the relative importance of the various factors for predicting educational performance.

FIGURE 1


High in-state, low overall correlation
No in-state, some overall correlation
Variable A
Variable B

In addition, we shall occasionally supplement our mean correlation findings with other criteria for evaluating the strength and consistency of relationships between variables. The other principal guidelines for judgment will be as follows:

1) Whether or not all or almost all within-state correlations between a particular pair of variables go in the same direction; that is, are all the correlations either positive or negative. If no more than one state shows a reversal from the predominant direction of relationship, we can conclude that we have a consistent relationship (significant at the .05 level, using the sign test).
2) Whether at least three of the within-state correlations are above .4 in the majority direction, with none over .4 in the opposite direction. Such a finding for a given pair of variables would give reasonable evidence of a generally strong relationship.

With this introduction to procedures of measurement and analysis we can now proceed in the next chapter to an examination of the distribution of counties along the various dimensions under study. This will be followed, in Chapter Four, by the presentation of findings of the interrelationships among the variables.

Chapter II, Footnotes

1. Our choice of the seven-year figure permits us to ignore the occasional age-grade retardation that is not due to scholastic incompetence; that is, starting school a year late or missing a year because of ill health. Of course, this also misses many who fail a single grade, but we feel that repeated failing is the better indication of poor academic performance. Besides, there seems to be an extremely strong relationship between retardation rates based on a six-year difference and rates based on a seven-year difference. For instance, the correlation between the two rates for Florida is found to be .913.

2. The state education officials gave aid to this venture by writing the local school systems to ask for their cooperation.

3. For comments on some additional problems pertaining to data from state departments of education, see Appendix A.

4. For correlational purposes, the constant 100 was added to the quotients obtained in order to eliminate minus signs.

5. Such an adjustment was not made for 1900 because these data were taken second-hand from another study being conducted at the University of North Carolina by James Prothro and Donald Matthews.

6. A household is defined by the Census as including "All persons who occupy a house, an apartment, or other group of rooms, or a room which constitutes a housing unit. A group of rooms or a single room is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters, that is, when the actual or intended occupants do not live and eat with any other persons in the structure and when there is either (1) direct access from the outside or through a common hall, or (2) a kitchen or cooking equipment for the exclusive use of the occupants." (See pp. ix-x in PC(1)-2B, the Census volume on "General Population Characteristics for Alabama, (1960).

7. For instance, county administrative costs may all be attributed to "white" schools or all custodial costs designated as "Negro" expenditures because of the personnel involved. Such instances are rare, we believe, but we cannot estimate when or where they have occurred.

8. See Appendix A for comments on additional problems in measuring the educational variables.

CHART A

Summary of Sources and Coverage of Variables Under Study

Name of Variable	Source*	Coverage**
Number of inhabitants of county	C	A
Percentage of population living in urban areas	C	A
Percentage of Negroes in population, 1960	C	A
Percentage of Negroes in population, 1900	C	A
Population change, 1950-60	C	A,N,W
Percentage of work force in manufacturing	C	A
Percentage of work force in agriculture	C	A
Percentage of work force in blue-collar, non-farm jobs	C	N
Percentage of work force in white-collar jobs	C	N
Number of persons per household	C	N
Percentage of persons under 18 living with both parents	C	N
Median family income	C	N,W,R
Median education of adults 25 and over	C	N,W,R
Percentage of adults with some college education	C	N,W,R
Per pupil expenditures	E	A,N,W,R
Pupil-teacher ratio	E	N,R
Percentage of teachers with at least B.A.	E	N,R
Percentage of age-eligible persons registered to vote	U	N,R
Number of lynchings of Negroes (before 1920)	T	
Number of lynchings of Negroes (1920 to date)	T	
Number of recent acts of racial violence	S	
Measures of Performance		
Percentage of pupils in average daily attendance	E	N,W,R
Percentage of high school grads entering college (3 year average)	E	N,W,R
Percentage of pupils not behind their age cohort in school	E	N,W,R
Ratio of 12th to 5th grade enrollments (3 year average)	E	N,W,R
Percentage of age-eligible youths enrolled in high school	C	N,W,R
Ratio of 9-12 grade enrollment to 1-8 grade enrollment	C	R

*C = U. S. Census
E = State and local departments of education
T = Tuskegee Institute records
S = Southern Regional Council, New York Times, Southern Regional Education Board, American Friends Service Committee, and National Council of Churches of Christ
U = U. S. Civil Rights Commission

**A = For total population
N = For Negroes (or non-whites)
W = For whites
R = Ratio of Negro ÷ white

CHAPTER III

DISTRIBUTION OF COUNTIES ON STUDY VARIABLES

From the mass of statistical data collected, processed, and interrelated for this study, our first task is to examine the distribution of counties for each variable separately. While doing this, we shall make state and racial comparisons whenever the data permit.[1]

Performance Variables

Of the six educational performance measures which serve as dependent variables in this study, the two Census-derived retention indices provide the most reliable basis for between-state comparisons. Only they have a completely uniform derivation for all states, and they do not suffer from variations in unaccounted-for private-school enrollment (since they do include private school pupils). On the other hand, within-state racial comparisons ought to be reliable for all performance indicators, because measurement for any index is assumed to be constant within states. This also means that differences are usually meaningful between states in the ratio of Negro-to-white performance rates; the comparison of Negro performance relative to whites can be made even if the measures of absolute performance rates vary in derivation from state to state. With these points in mind, let's begin our look at the distribution of counties on the various performance dimensions.

In nine of the eleven states, the mean county average daily attendance rates of whites are higher than the rates for Negroes (Table 1). The largest racial differences are found in Georgia (85% to 75%) and in

Mississippi (91% to 82%), while the two reversals are in Florida (where the Negro attendance rates are higher, by three percentage points) and in Tennessee (where the rates for both races are virtually the same). The Negro-to-white ADA ratios (Table 2) show the same four states occupying the ends of the continuum. Negro rates average only 90% of white rates in Mississippi and about 104% of white rates in Florida.

The absolute rates for Tennessee are inexplicably high for both races (over 95%) -- even higher than the Virginia rates, which should be highest because of a computational peculiarity in figuring that state's rates.[2] Next to Tennessee is North Carolina among the ten states with comparable measures. The average county in North Carolina has an 89.3% rate for Negroes and 92.0% rate for whites. The lowest rates for Negroes are in Georgia, averaging 77.6%, and the lowest for whites are in Florida with an 83.9% average. It is also interesting to note the greater concentration of white rates around the mean in every state. The standard deviations of white rates are markedly smaller than those for Negroes in all eleven states. What this seems to indicate -- and what is borne out by examining the distributions -- is that high attendance rates occur for both races, but that Negro rates are more likely to disperse further toward the lower end of the continuum.

College entrance rates are also consistently higher for whites than Negroes (Table 3). This is true in all eleven states, with the margin as small as three percentage points in Florida and as large as seventeen and a half points for South Carolina. There seems to be no consistent pattern, however, of greater dispersion of rates for one race.

Between-state comparisons are extremely hazardous for this variable, not only because of differences in measurement, but also because of an artifact of the college entrance rate in general. We refer here to the possibility of the rate varying with either the number going to college (the numerator) or the number of graduates (the denominator), both of which can fluctuate markedly. If a large proportion of youth do not graduate from high school, this can lead to a high college entrance rate -- the few graduates all going to college -- that does not reflect the county's true college attendance picture. Thus, we can put little store in the range of 15.6% (South Carolina's average) to 44.2% (Texas' average) for Negro college entrance, nor to the range between 33.2% (South Carolina's) to 50.8% (Texas') for whites.[3] For that matter, we have only limited confidence in between-state comparisons of the Negro-to-white ratios of college entrance rates (Table 4). These show South Carolina Negroes averaging only about 49% of the white entrance rate, while in Florida, Texas, and Louisiana, the Negro rate averages 90% of the white rate. But we shall have to combine our impressions about college entrance rates with those to be discussed about school retention in order to get a clearer idea of state differences in the relative performance of the two races. The highest performance levels occur where both retention and college entrance are high.

Table 5 shows the data for age-grade retardation. One should be reminded of the variety of ways that this is measured. But here, again, the performance levels of Negroes average consistently lower than those for whites in every state. That is, the average retardation rates are higher, although the difference in Tennessee is negligible. In most of the other states, Negro age-grade retardation rates average at least twice those of whites. This is borne out also in Table 6, showing the ratio of Negro retardation divided by white retardation. On the average, the ratio is lowest in Tennessee, where Negro rates do not tend to be much higher than the white rates, and highest in Texas, where the average county shows the Negro rate to be three and a half times that of the white rate. As with average daily attendance, the distribution of absolute rates of retardation tends to be much more dispersed for Negroes than for whites; the major portion of this greater dispersion shows up in a skewness toward greater retardation. In every state, the standard deviation on this variable is much larger for Negroes than for whites.

The two retention measures for which we have data for each race separately both show the same trend of higher performance rates for whites. The 12th-to-5th grade enrollment ratio is higher for whites in every case, although the margin is not always very wide (Table 7). The greatest racial difference is found in Mississippi -- .55 to .26, or a difference of .29; the smallest difference in Tennessee -- .47 to .46, only .01 apart. This shows up in Table 8 also, where the ratio of the Negro measure divided by the white measure exceeds 1.0 in the average Tennessee county, but is less than .5 in the average Mississippi county. The computation of this index is fairly constant from state to state, thus permitting between-state comparisons of the absolute values of the 12th-to-5th grade ratios. They show Mississippi and Georgia with the lowest 12/5 ratios for Negroes (.27 and .26, respectively) and Tennessee and Texas with the highest ratios (.46 and .45). The ratios for whites range from a low of .42 for Florida counties to highs of .58 and .57 for Arkansas and Texas counties, respectively. There is sizable fluctuation from state to state in the amount of dispersion of counties of this index. The standard deviations are as low as .08 for both races in South Carolina and above .14 for both races in Texas.

The high school enrollment rate, another retention index based on the ratio of high school enrollment divided by the population aged 14-17, also shows generally higher performance levels for whites (Table 9). The range for whites is from .74 in South Carolina to .90 in Mississippi. For Negroes, South Carolina is also low with an average of .59, while Florida is high with .79. Tennessee is the only state where the average value of this index for Negroes exceeds that of whites -- .78 to .75. The white advantage is greatest in Mississippi (.90 to .65) and Georgia (.86 to .62). Incidentally, the dispersion of counties on this measure is wider for Negroes than for whites in ten of the eleven states.[4]

Shifting to the ratio of the Negro high school enrollment rate divided by the white rate, we meet general corroboration with the findings reported above. The average county in Tennessee shows the Negro rate to be about 108% of the white rate (Table 10). At the other extreme, the Negro rate averages less than 75% of the white rate in Mississippi and Georgia.

Our third retention index, used only for its Negro/white ratio comparison, again shows Mississippi and Georgia at the bottom of the list with regard to the relative performance of Negroes (Table 11). This measure is simply the ratio of high school enrollment (9-12 grades) to elementary school enrollment (1-8 grades). The ratio for Negroes in Mississippi averages only 58% as large as the white ratio; in Georgia, this figure is 64%. Tennessee shows Negroes performing relatively best, with an average rate that is 94% that of whites. In addition, one-third of the Tennessee counties included in the study (16 of 48) show a Negro advantage (i.e., a high-school/grade-school ratio at least 100% of the white ratio). Only two other states, Texas and Virginia, have even 20% of their counties with a higher Negro high-school/grade-school ratio.

In summary, the distribution of counties on the various performance indices reveals the level of white performance to be generally higher than that for Negroes. This is true for all indices. There is, however, considerable overlap; the highest country rates for Negroes are usually much better than the lowest county rates for whites in any state.[5] In fact, the former often match the best of the white performance rates. One of the chief factors associated with somewhat lower overall performance for Negroes is simply the greater dispersion of their county rates within most states; while the best county rates for each race are often about equal, the other end of the performance continuum is often stretched out further and is more heavily represented by Negro county statistics.

Some differentiation of the states on performance is fairly clear. In general, Tennessee ranks best for Negroes both in an absolute sense and relative to whites.[6] The evidence, despite the limitations imposed by inconsistent methods of measurement across states, is that white youths may also tend to perform well in Tennessee. But most of the other states also rank high on at least one measure of white educational performance, with Mississippi and Arkansas probably making the best consistent showings. Generally, the worst states for white performance are South Carolina, Georgia, and perhaps Florida and Virginia, although the last two do score high on one index apiece. The worst states for absolute Negro performance also appear to be Georgia and South Carolina, with Mississippi and Virginia generally -- but not as consistently -- low on the various indices. As for Negro performance relative to whites, Florida and Texas usually follow close behind Tennessee at the high end of the continuum, and Georgia, Mississippi, and South Carolina are generally near the low end.

Confidence in the validity of our performance measures, in spite of differences in definition and methods of collection, is reinforced by the degree of consistency of findings for the various measures and of the differences among states -- both in accord with expectations.

We shall be able to get our first clues as to the best correlates of county educational performance levels in the next section discussing county distributions of the intended predictor variables. We shall be most interested in looking for those characteristics most common in states generally at one or the other end of the performance dimensions.

Demographic Variables

Judging from Tables 12 and 13, Florida and Texas counties tend to be the most heavily populated and most urban among counties in the study. These are the only two states where counties average over 70,000 population and over 40% urban. At the other extreme, is Mississippi where counties average only 28,000 persons per county and only 23% urban. Mississippi also fares poorly on the population growth dimension, ranking second to Arkansas as one of two states where both the Negro and the white population are declining in most counties (Table 14). Florida stands alone as the fastest growing state, with an average county increase of 69% for whites and 33% for Negroes. Louisiana follows next at a distance, although Texas' average increase almost matches Louisiana, and Virginia and South Carolina are also relatively high on white increase. The average county in six of the states actually lost Negro population from 1950 to 1960, while there was an increase of whites in nine of the eleven states. Texas is the only state where the average county growth of the Negro population exceeded the white increase -- 10.1% to 8.9%.

As best as we can conclude from the above, there seems to be a slight congruence between the ranking of states on performance and their ranking on urbanism and growth. Florida and Texas, both showing high relative performance by Negroes, are growing urban states.[7] But Tennessee, even higher on relative Negro performance, does not stand out either as highly populous or highly urban, or fast-growing. Mississippi and Arkansas are at the less urban, population-declining end of the continuum. They are both distinguished by having fairly high white performance and Mississippi also tends to have low Negro performance, especially relative to whites. The other low Negro performance states, South Carolina and Georgia, are not consistently low on growth and urbanism -- Georgia has a low average population per county, but is not too far below average in population change or percentage urban; South Carolina is actually above average on population per county and on white population increase.[8]

The fourth demographic variable, percentage of Negroes in the population, shows a range for county averages (among the counties included in this study) of 16.2% to 44.1% in 1960 and 25.4% to 59.8% in 1900 (Tables 15 and 16). For both dates, Tennessee registered the lowest proportion of Negroes. Mississippi was highest in 1960 and South Carolina was highest in 1900. Here we see a definite trend for high relative educational performance of Negroes to be associated with a lower percentage of Negroes in the population, at least when states are the unit of analysis. We shall see in the next chapter how well this holds up when counties are being compared.

Socio-economic Variables

When we come to the distribution of income and educational attainment measures (Tables 17-22) we get a picture not at all inconsistent with the trends noted for the purely demographic variables. Tennessee stands out as the best state for Negroes relative to whites on both median education and the percentage with some college education. It is third on the average county median income of Negroes relative to whites. Florida is first on this measure, but does not show up as well for Negroes on the educational attainment dimensions. Virginia and North Carolina are other states where Negroes score relatively high on these variables. In fact, in absolute terms, the mean county median income and average median education of Virginia Negroes are the highest in the region. Negroes tend to have the least education and lowest incomes, both absolutely and relatively, in Mississippi, Georgia, South Carolina, and perhaps Louisiana.

If we try to summarize for all three variables (one income and two education measures) for whites, they appear to be best off in South Carolina and Florida, with Mississippi also scoring high on the education measures and Virginia at the top on white median income. Tennessee is the worst state for whites, with Arkansas close behind. Thus, so far again we see something of the same pattern as we saw with the performance indices -- Tennessee at one end of the continuum and Mississippi, Georgia, and South Carolina near the other end.

The same trend seems to hold fairly well with one other socio-economic variable, population per household (Table 23). Here, too, South Carolina and Mississippi are among those states indicating low socio-economic status for Negroes (large average population per household), along with North Carolina. South Carolina, followed by North Carolina and

Louisiana, lead in average household size for whites. Texas, Florida, and Tennessee -- all good states for Negro performance -- tend to have the smallest Negro households, with Texas and Florida also ranking lowest on average white household size.

The rest of the socio-economic indicators are not nearly so consistent in the way they rank the states. Virginia has the highest percentage of Negro (non-white) children under 18 living with both parents; Florida has the lowest (Table 24). But the range between these two states -- from 68.6% to 61.8% -- is so small that little should probably be made of the order of states that finds Alabama next to Florida at the low end and North Carolina, Mississippi, and Louisiana following Virginia as the states with highest percentages.

South Carolina and North Carolina, two states with differing educational performance patterns, stand at the top in average county percentage employed in manufacturing (Table 25). The percentage in these two states is about twice that of the states with least average manufacturing employment, Florida and Texas. The latter two, we may recall, are among the best states for relative Negro performance.

Mississippi, with 27.4%, is far and away the leading state in average percentage employed in agriculture (Table 26). Florida has the lowest percentage, 13.5%, followed by Virginia, 14.1%. However, states with very different performance patterns are mixed together in the rank ordering on this variable. For example, Georgia and South Carolina have a higher average agricultural employment than Florida and Texas, but a lower average percentage than Tennessee. Yet, Florida, Tennessee, and Texas are closer to each other in performance than they are to Georgia or South Carolina .

Texas and Virginia are tops in the mean percentage of Negroes employed in white-collar jobs (Table 27). Lowest are Georgia and Mississippi, and South Carolina, the three worst states for Negro educational performance. But Tennessee and Florida, two of the best states for Negro performance, rank relatively low on this variable -- right next to South Carolina.

The percentage of Negroes in blue-collar jobs has Florida and Georgia -- two very different states on Negro performance -- ranking one-two (Table 28). Mississippi and Alabama are at the bottom of the rankings, but Tennessee, which is not at all like Mississippi and Alabama on performance, is quite close to them on the average blue-collar percentage.

In all, then, we find the ordering of states on some of the socio-economic variables to be parallel to the ordering on performance and demographic measures. But other socio-economic indices do not provide as consistent a patterning of states. Again, we shall have to wait until Chapter IV to see whether these early clues as to the best predictors of performance are valid.

Race-Relational Variables

On the basis of state comparisons, only one of the indices of race relations seems to hold much promise as a predictor of educational performance. The voting registration rate of age-eligible Negroes (those 21 and over) displays an ordering of states roughly similar to rank on performance (Tables 29 and 30).[9] This is true both for the absolute and relative measures of Negro registration. Tennessee, Florida, and Texas show the highest registration rates, and South Carolina has the lowest rates. The range in absolute registration averages is from 60.7% in Tennessee to just 4.1% in Mississippi. Negro registration, as a percentage of white registration, ranges from 96.3% in Texas to just 19.9% in South Carolina.

The lynching measures (before 1920 and 1920 and later) produce state rankings consistent neither with performance nor with each other (Tables 31 and 32). Mississippi, a low Negro performance state, has the most frequent lynchings, but Florida with high performance, also ranks high on lynchings in the later period. Tennessee ranks fairly high in the earlier period, but averages quite low from 1920 on. None of the states at either extreme on the performance ranks has relatively few lynchings in both time periods. In general, counties are clustered at or near the zero end of the lynching frequency distribution in all states, especially since 1920. Thus, the small dispersion may account for the lack of a clear patterning of states on these measures.

The recent-racial-violence variable also does not produce much dispersion both for counties within states and for states within the region. The same lack of an understandable pattern also occurs. Tennessee turns up second to Alabama on average number of violent incidents between January 1955 and June 1960, while South Carolina -- very different from Tennessee in educational performance -- is third. Virginia averages the least violence, but Louisiana, Texas, and Georgia (the last two dissimilar in performance) are also very low.

Thus, this initial overview holds out promise only for the voter registration index as a "race-relational" variable with power to predict educational performance.

Educational Support Variable

No firm conclusions can be derived at this point from the measures of per pupil expenditures, although some interesting state differences do occur. Louisiana leads all states by a large margin in the average expenditures for whites and Negroes together (Table 34). A distant second to Louisiana's $342 mean per pupil expenditure is the $273 for Texas pupils. Florida is third at $260. The lowest per pupil expenditures are found in Arkansas ($175), Alabama and Mississippi ($183), and Tennessee ($195). The state differences are fairly large, but the rank ordering of states does not adhere to any pattern that might be expected on the basis of performance rankings.

We cannot legitimately compare the states on the absolute amounts of within-race expenditures, because of limitations in the data mentioned in the last chapter. In fact these limitations -- resulting from the inclusion of only instructional costs in the racial breakdown in three states and from the total absence of such a breakdown in three others -- cause some concern over the utility of between-state comparisons of the relative expenditures for Negroes. Table 35 shows that Virginia and Alabama lead on this measure, but the data for both states is based only on instructional costs. North Carolina is highest among states where all costs are included in relative expenditures for Negroes, with South Carolina and Mississippi lowest. The standing of these last two states is as might be expected on the basis of the performance findings. However, we are prevented from seeing any possible full congruence between performance and expenditure rankings by the fact that the costs data are completely missing for the three states with best relative Negro performance (Tennessee, Texas, and Florida).

The only index of educational support for which all states are represented does reveal a ranking pattern similar to that found for performance. Mississippi averages the most Negro pupils per teacher, both in a relative and an absolute sense (Tables 36 and 37). The average is 35.8 per classroom in that state. Negro class size averages over 143% of the average white class size in Mississippi counties. South Carolina also ranks high on both the relative and absolute scales, with Louisiana (a high expenditure state) ranking second to Mississippi in relative size of Negro classes. At the other end of the continuum, Texas averages the smallest Negro classes (just 25.3 per teacher), and Florida, another good relative-Negro-performance state, has the best pupils per teacher ratio for Negroes relative to whites -- Negro classes actually average slightly smaller than white classes. Tennessee, the third good Negro-performance state, also ranks among those with the fewest Negro pupils per teacher.

Our final measure of educational support, the percentage of teachers with at least a bachelor's degree, is missing for three states, North Carolina, Florida, and Texas. Among those states with such data, South Carolina and Mississippi -- two states with similar performance patterns -- stand at opposite ends of the rankings scale, when we look at the figures for Negro teachers alone. They are not so different, however, when we look at the relative training of Negroes; Mississippi is still last, but South Carolina falls to sixth (of eight states). Virginia, followed by Tennessee, shows the best relative training of Negro teachers among the states for which data are available. In six of these eight states, there tend to be more Negro teachers with a B.A. degree than white teachers in the average county.[10]

The conclusions we can draw, then from an examination of county distributions on the educational support variables, are that pupils per teacher and perhaps relative expenditures for each race offer some promise as correlates of educational performance.

In the next chapter, we will see whether the impressions noted in this chapter hold up in correlational analysis. The findings briefly discussed here have helped to describe for us the states of the region, and they have served to give clues as to which variables are the best predictors of educational performance, particularly of Negroes. As we shall see in the next chapter, only some of our impressions based on comparing frequency distributions are confirmed by the actual correlations.

Chapter III, Footnotes

1. Limitations arise in some instances because of unavailability of data for racial comparisons or because of lack of comparability of measures from state to state. (See preceding chapter.)

2. Average daily membership is substituted for the larger net enrollment figure in the denominator of Virginia's rates.

3. Note that Mississippi's rates are second to those of Texas for both races. In fact, the former may actually be higher, since Texas' rates are based on the possibly inflated college-intention figures, rather than on college attendance.

4. One other note about this particular index: a fairly large group of counties shows up with a high school enrollment greater than the population 14-17. Of the 812 counties in the study, 32 have this ratio exceeding 1.0 for Negroes and 67 exceed 1.0 for whites. Such high enrollment figures are possible only because students outside the normal age group are counted as enrolled in high school. An investigation of the counties with this surprisingly high ratio shows that the excess enrollment is pretty much accounted for by an unusually large school enrollment by persons aged 18-21. This is true regardless (1) of the retardation rates in these counties or (2) of whether or not there is a college in the county -- both factors could have increased the number of over-age persons listed as enrolled in school. The most satisfactory hypothesis seems to be that students 18 years old and above, having dropped out of regular school in these counties are registered in special trade or night high schools, thus raising the county score on this index. This is substantiated by the observation that most of the high index counties are highly urbanized counties, where special schools might more commonly be found. (The study is indebted to James Barnhill, an undergraduate student working on the project under the auspices of the National Science Foundation, for doing the analysis that provides this explanation.)

5. We should also note a similar overlap in performance within counties. Even where Negroes tend to do poorest as compared to whites, this does not mean that every Negro does worse than every white. Take, for example, a county where 20% of the Negro high school graduates and 50% of the white graduates go to college. This produces a fairly low relative performance rate on the college entrance index of just .4 (20 ÷ 50) for Negroes. Yet even here, 20% of the Negro graduates are performing better than 50% of the white graduates -- that 50% not attending college.

6. College entrance data, however, are lacking for Tennessee.

7. This is true at least insofar as the counties in our study are concerned.

8. It should be noted that a county is an artifact and its population size is to some extent a reflection of whether the early statesmen wanted to slice up their state into large or small subdivisions.

9. However, we must point out two limitations in these data: (1) they apply to only 17 of the 48 Tennessee counties included in our study, and (2) data for Mississippi whites is unavailable, thus preventing any racial comparisons in that state.

10. This may be attributed to a variety of factors, foremost of which may be the relative inability of college-trained Negroes to get any jobs other than teaching.

CHAPTER IV

INTERRELATIONSHIPS AMONG VARIABLES

The purpose of this chapter is to present correlational data concerning the relationships among the many variables under study. We shall rely mainly on summary findings; i.e., overall results for the entire eleven-state region. These will usually be based on the weighted mean of correlations for each state. Only these data will be given in tabular form in this chapter; however, some within-state findings will also be discussed. The order of presentation will be as follows:

1) Relationships among dependent variables;
2) Relationships between each dependent variable -- taken one at a time -- and the series of independent variables;
3) Summary of relationships between dependent variables -- taken as a group -- and the independent variables.

We shall be dealing here with zero-order correlations only. That is, we shall postpone until the next chapter any attempt to look at either the combined effects of several variables on performance or the effects of one variable controlling for others.

Relationships Among Dependent Variables

Table 40 reports all the mean correlations between pairs of performance measures. Above the diagonal are included all those relationships bringing together variables of like order; e.g., Negro vs.

Negro, white vs. white, and relative Negro vs. relative Negro performance measures.[1] Below the diagonal are the mean correlations for all other combinations of dependent variables.

In general, the relationships between similarly based variables (above the diagonal) are fairly strong. It would seem that these variables can be viewed usefully as indexing a single broad dimension called educational performance.

There is, however, one consistently weak link in the chain of interrelationships. This is college entrance rate, which invariably provides the lowest mean correlations with other similarly based measures. For example, college entrance (N) has a .128 correlation with average daily attendance (N), and the next lowest correlation with Negro attendance is .344 for the 12th-to-5th-grade rates. For whites, ADA correlates only .033 with college entrance; next lowest is .229 between ADA and the percentage of age-eligible youths in high school. Concerning the ratio of Negro-to-white performance rates, ADA (R) has only a .143 mean correlation with college entrance (R), followed by a .295 correlation with non-retardation (R).[2]

This same picture is presented throughout the upper half of the correlation matrix. The relationships with college entrance are always weakest. Moreover, the only two sign reversals involve this variable along with the 12th-to-5th-grade enrollment ratio. For Negroes, the correlation between these two measures is -.086; for whites, it is -.066. We have once before referred to the possible peculiarity of the college entrance measure. While we should be wrong to conclude a negative relationship between college entrance and the other measures --

or even a complete lack of any relationship -- it certainly is true that these relationships are weakened by certain characteristics of the college entrance measure. In fact, these characteristics do make for a slightly negative association with one of the retention measures.

If we consider the relationships among the similarly based performance variables within states, we see the basis for the overall weakness of the college entrance measure. There are altogether 16 cases of a negative correlation between college entrance and the 12-to-5th-grade retention measure. These occur in eight of the ten states[3] when we are dealing with absolute Negro performance, in three states for white performance, and in five states for relative Negro performance. Only Georgia shows no negative relationships between college entrance and the 12/5 ratio.

There are quite a few other sign reversals involving college entrance in the state correlations. Seven are in the ADA vs. college entrance relationships; six are between college entrance and the percentage of age-eligible youths in high school (high school enrollment rate); five, between non-retardation and college entrance; and two of the ten states show a negative association between college entrance and the Census Retention Index:

$$\frac{\text{non-white high school enrollment}}{\text{non-white elementary enrollment}} \Big/ \frac{\text{white high school enrollment}}{\text{white elementary enrollment}}$$

Besides the correlations involving college entrance, there are 232 other within-state relationships, and only four of these show a sign reversal: ADA (R) with three other relative Negro performance measures in Arkansas and ADA (W) with one other white performance measure in Georgia.

The irregularity of the college entrance variable leaves a question as to the usefulness of this measure in any overall composite index of performance. We will retain it in further analysis, because it does seem a valid measure of performance, even if not part of the same single underlying dimension to which the other measures may conceivably belong. But we need to be alert to the possibility of occasionally peculiar results stemming from this variable's idiosyncratic behavior.

When we look below the diagonal on Table 40 at the other relationships between pairs of dissimilarly based dependent measures, our first observation with these is that a moderately positive mean correlation appears between the white and the Negro version of each measure. Thus, ADA (W) has a .151 correlation with ADA (N); the correlation is .130 for the 12th-to-5th-grade enrollment ratios; .253 for non-retardation; .241 for college entrance; and .186 for the percentage enrolled in high school.

The association between white and absolute Negro performances does not always remain positive, however, when we look across particular measures. In fact, there are seven negative correlations in the twenty relationships between Negro performance as measured one way and white performance measured some other way. None of these negative correlations is especially large -- the biggest is the -.153 between college entrance (N) and the 12/5 ratio (N).[4] But on the other hand, none is very great on the positive side either, the highest being .190 between non-retardation (W) and high school enrollment rate (N). We might conclude, then, that white and Negro performance are not highly related to one another in general, and that cross-race, cross-index relationships involving college entrance are negative at least as often as they are positive. The weak cross-race relationships seem an indication that performance in Negro schools is only partly accounted for by whatever makes for performance variations in white schools. Apparently, determinants will differ in large degree for each race, and school system effects will be relatively minor.

The measures of relative Negro performance (R) follow a very clear pattern in their association with the other performance variables. Very high positive correlations are found between the relative and absolute forms of each type of Negro performance measure. The correlation is .876 between ADA (R) and ADA (N). The relative and absolute 12th-to-5th grade ratios are Negroes correlate .784; non-retardation, .587; college entrance, .733; and percentage enrolled in high school, .809.

Lower, but consistently positive correlations occur between relative performance indexed one way and absolute performance indexed differently. These correlations are highest between the various retention measures. We find a .695 mean correlation between high school enrollment (N) and Census retention index (a relative Negro performance measure); .419 between high school enrollment (N) and 12/5 ratio (R), .422 between high school enrollment (R) and 12/5 ratio (N), and .404 between 12/5 ratio (N) and Census Retention Index. There is just one negative mean correlation between a relative and an absolute performance index. This is the -.011 (virtually zero) between non-retardation (R) and college entrance (N).

Whereas relative and absolute Negro performance are almost always positively related (at least when we use the average of all eleven states), the association between relative Negro performance and white performance is almost always negative. This is as might be expected; the better that white performance is, the poorer that Negro performance will tend to be, relatively speaking. But variations in the strength of relationships indicates that all is not due to mere statistical artifaction. The highest negative correlations occur within the same kind of performance index: ranging from -.509 for the relationship between white and relative Negro non-retardation to -.309 between white and relative Negro ADA. Other high correlations are the -.307 between 12/5 ratio (W) and ADA (R) and the -.303 between 12/5 ratio (W) and non-retardation (R). The smallest -- and the only sign reversal -- is the .001 between non-retardation (W) and Negro ADA (R).

Thus we can generally conclude that the various performance measures are interrelated, though poorly with the college entrance rate. The correlations are highest between the relative and absolute performance of Negroes, using the same index of performance. They are also usually high between the various performance measures within the same race. And they are high (negatively) between white and relative Negro performance, using the same index, as they should be. The association between white and Negro (absolute) performance, using different indices, is least predictable -- more often slightly positive, but sometimes slightly negative. How the dependent variables relate to the various intended predictors is the topic of the next section.

Best Predictors of Each Dependent Variable

In all, four measures average over ±.400 in their correlations with (absolute) Negro average daily attendance (Table 41). These are (1) percentage employed in agriculture, (2) median education (N), and (3 and 4) relative and absolute Negro pupils per teacher. These four also average over ±.400 in their correlations with ADA (R) -- a distinction shared with two additional variables, percentage of Negroes in the population (1960) and median income (N).[5] The best correlate discovered for ADA (W) is population per household (W), but the coefficient is only -.257 notably smaller than those mentioned above. Other good predictors of either absolute or relative Negro ADA -- with correlations above ±.300 -- are overall and Negro population change, percentage employed in blue-collar occupation (N), percentage employed in manufacturing, income (R) and education (R); population per household (N), and the expenditure on education (R). Of these, only population per household is negatively related. The only other correlations to exceed .200 with white ADA (besides population per white household) are those involving overall and white population change (-.235 and -.237, respectively) and white per pupil expenditure (.225).

As an overview, we might conclude from this first dependent variable that the amount of money spent for education is an important predictor of performance. Also, population per household is negatively related to performance; the lower the general county socio-economic status, as measured by crowdedness of homes, the poorer the educational performance. Most other variables do not predict consistently for both whites and Negroes. It is true that population change correlates fairly highly with both white and Negro ADA, but the relationships are in opposite directions: population growth tends to be associated with better Negro performance and with poorer white performance. Otherwise, there are no variables that correlate highly with ADA of both races.

There is quite a bit of repetition in the list of best correlates of our next dependent variable, the ratio of 12th-to-5th-grade enrollment (Table 42). The best predictor of absolute Negro performance, using this index, is pupils per teacher (N) and the best predictor of the 12/5 ratio (R) is pupils per teacher (R). Both of these average correlations are greater than -.400. Median education (R) also correlates with both relative and absolute measures of the Negro 12/5 ratio at above the .400 level. A third variable, per pupil expenditures (R), shows a .452 correlation with the 12/5 ratio (R). These best predictors -- pupils per teacher, median education, and per pupil expenditure -- all did well as predictors of ADA too. Where the support of education, as well as the level of completed education, is high for Negroes, the performance of Negro youngsters in the schools tends to be better. This is true at least from our first two indexes of performance. Other predictors of the 12/5 ratio (N), with correlations above ±.300, are per pupil expenditures (N) and pupils per teacher (R). At the same time, percentage Negro (1960) voter registration (N), percentage in agriculture, median education (N), per pupil expenditures (W), and pupils per teacher (N) all correlate above ±.300 with the 12/5 ratio (R).

We find four measures associated with the white 12th-to-5th-grade ratio at above the ±.400 level. The best predictors are population change, overall and white. Both display very high negative correlations with this performance index. In other words, staying in school until graduation is associated, especially for whites, with non-growing or declining county population. (We shall see if this conclusion holds up when we examine our other retention measures later on.) The other two greater-than -.400 predictors of the white 12/5 ratio are (W) per pupil expenditure (.425) and Negro median income (-.405). White income is also highly negatively related to the 12/5 ratio (W), with a correlation of -.348. Thus, where incomes are low, but expenditures for whites are high, the holding power of the schools seems strongest for whites. The same phenomenon, but substituting Negro for white expenditures, held true to a lesser degree for the Negro 12/5 ratio, too.

Other correlations with the 12/5 ratio (W) that exceed ±.300 are those involving percentage Negro, 1960 (.362); (N) population change (-.389); percentage in agriculture (.311); percentage urban (-.364); (W) household size (-.370); and (R) per pupil expenditure (-.331). The pattern continues as one where growing urbanism and some of its accompanying features are much more important in predicting white educational performance. But for both races, the amount of local support given to education appears to be a key determinant.

The relationships between the independent variables and non-retardation (Table 43) do not seem as strong, generally, as those involving ADA or the 12/5 ratio. Not a single correlation coefficient exceeds ±.400. The best predictors of non-retardation (N) are percentage in agriculture and median education (N), with moderately strong correlations of -.339 and .338, respectively. Pupils per teacher (R) is the only other variable with a correlation above ±.300 with non-retardation (N). Median education (W) is also a good predictor of non-retardation (W). The average correlation for all ten reporting states is .397. Population per household (W) -- another index of socio-economic status -- just manages a -.300 mean correlation with non-retardation (W). As for non-retardation (R), only one correlation exceeds ±.300 -- that involving median education (R). Other fairly strong correlates of non-retardation (R) are percentage Negro (-.297 and -.288 for 1960 and 1900, respectively) and (R) median income (.288). Thus, the most consistent single predictor of non-retardation would appear to be the median education of adults -- each race treated separately. In addition, we find a socio-economic variable (percentage in agriculture) and a school-support variable (pupils per teacher) predicting Negro performance on this measure, and we find another socio-economic variable (number per household) predicting white performance. The overlap with previous measures, as to which are the best predictors of performance, is sizable. But there is enough variation across performance measures to make it worth our while to reserve judgment on which are the best predictors until correlates of all the dependent variables have been discussed.

Additional evidence of the college entrance rate's peculiarity as a performance measure is seen in Table 44. First, it upsets the previous pattern in that we find our highest correlations involving the measure for whites. Second, Negro relative performance, using this measure, suffers from a dearth of high correlations -- a deficiency confined to white performance earlier. And third, many of the best predictors are variables that were not outstanding in our discussion of ADA, 12/5 ratio, and non-retardation.

Two of the correlations with white college entrance exceed .600. Both are for white adult education measures -- median education and the percentage of persons with some college education. College entrance (W) also correlates above the .400 level with median income (W) and percentage urban, and it has correlations above ±.300 with median income (R) and county population. Thus, the more urban counties, having white populations of relatively high income and education are the ones tending to have the highest college entrance rates for whites.

Similar variables do the best job of predicting Negro college entrance, although the size of correlations is generally smaller. Percentage urban is the best predictor (.380), followed by (N) percentage with college education (.357), county population (.335), (N) percentage employed in white-collar jobs (.326), (N) median education (.314), (N) median income (.313), and (N) population change (.305).

The highest correlation with college entrance rate (R) is only .290 -- with percentage who are college educated (R). Median education (R) also correlates at a relatively high level (.262). But the demographic variables of county population and percentage urban have very weak relationships with college entrance (R), as compared to their correlations with the absolute measures of college entrance (N and W).[6]

In Table 45, we return to a second retention or non-dropout, measure -- the high school enrollment index or percentage of age-eligible youths in high school, computed as the ratio of high school enrollment divided by the population 14 to 17. We find a good deal of replication of the findings noted in Table 42 concerning our first retention measure, the 12/5 ratio. The best predictors of high school enrollment (N) parallel those for the 12/5 ratio (N). The correlation between median education (N) and high school enrollment (N) tops the list (.370), followed closely by the -.367 between high school enrollment (N) and pupils per teacher (N). Then come relationships with (R) median education (.339), (R) pupils per teacher (-.330), percentage in agriculture (-.329), and (N) number in household (-.302). All but the last variable also had noteworthy correlations with Negro performance as indexed in the 12/5 ratio.

But there is a major deviation from the best correlates of the white 12/5 ratio when we come to the correlates of high school enrollment (W). Leading the independent variables in relating to the latter is median education (W). The correlation is .308. While median education is generally a good predictor, the relationship between this measure for whites and the 12/5 ratio (W) was only -.063 -- negative at that. On the other hand, population change had a high negative relationship with the 12/5 ratio (W), but is only very weakly negatively related to high school enrollment (W). Other correlations above ±.200 with high school enrollment (W) are (W) number per household (-.291), (W) per pupil expenditures (.256), and (W) percentage college educated (.262) -- all but the last having correlated with the 12/5 ratio (W) at a level above ±.300.

Median education (R) shows the highest correlation with (R) high school enrollment (.418), with median education (N) and pupils per teacher (R) also correlating beyond ±.300 with this particular performance index. All three variables thus repeat earlier success in predicting retention as measured by the 12/5 ratio (R). We can conclude, then, that as far as Negro performance is concerned, the 12/5 ratio and the high school enrollment index are variables with considerable underlying, as well as face, similarity. But the predictors of white performance differ somewhat for the two indicators. Median education (W) predicts high school enrollment (W) but not 12/5 ratio (W), while population change, percentage urban, and percentage in agriculture work the opposite way -- predicting the 12/5 ratio (W) well, but not the high school enrollment index (W).

No real surprises emerge from examining Table 46 which reports the correlates of the final performance and third retention measure, the Census Retention Index. This variable, only used to measure the relative standing of Negroes in a county, relates most strongly to (R) median education (.361). Other ±.300 correlations involve (N) median education (.348), (R) per pupil expenditures (.333), (R) pupils per teacher (-.321), and percentage in agriculture (-.312). All of these same independent variables produced correlations of at least ±.254, with the high school enrollment rate (R) and at least ±.331 with the 12/5 ratio (R). We, therefore, have more evidence of the general reliability and interchangeability of our three indexes of a school system's retentiveness.

Summary of Effects of Independent Variables

Without an exact precedent, we have chosen a simple method of combining the findings for each dependent measure into a single composite showing the best overall correlates of the indices of educational performance. The method is to compute the average rank achieved by each independent variable in correlating with the various performance measures. In order to do this, we have to treat college entrance rate just like any other performance variable, despite its idiosyncratic behavior in association with independent and other dependent variables. The decision to do this is based on the face validity of this measure as an index of performance. Even if it is not as highly correlated with the other measures, we feel it still deserves to be counted equally as an indicator of one type of performance level of students in a county.

Table 47 gives the average rank of predictors of absolute Negro performance; Table 48, white performance; and Table 49, relative Negro performance. Averages are given only where an independent variable correlates in the same direction with all similarly based dependent variables. Thus, no average rank is given for the relationship between county population and performance (N), because the correlation between population and the 12/5 ration (N) is negative while the other four correlations between absolute Negro performance measures and population are positive. At the same time, an average rank is given between percentage Negro (1960) and performance (N), because all five of the correlations going into this composite are negative.

The most consistently good predictor of absolute Negro performance is adult median education (N). The higher the median education of Negro adults in a county, the better is the performance of Negro students in the schools regardless of which performance measure is used. In fact, the variable always ranks in the first ten (out of 36 measures) in its power to predict Negro performance. Its poorest showing is in the 12/5 ratio (N), where the weighted mean correlation is .252 -- worth seventh place among correlates of that measure. This particular relationship also provides the only within-state deviations from the overall trend of positive correlations. Florida (-.063) and Texas (-.340) show the only negative relationships anywhere between a performance measure (N) and median education (N).

Other noteworthy correlates of absolute Negro performance are pupils per teacher (both R and N), percentage in agriculture, per pupil expenditures (both R and N), median education (R), number in household (N), and percentage Negro (1960). Negro performance tends to be higher in counties where more money is spent -- relatively and absolutely -- on Negro schools and where Negroes have higher relative, as well as absolute, median education. Negro performance declines where agriculture dominates the economy, where there is a large percentage of Negroes in the population, and where Negro households and Negro classrooms are more crowded.

Several other variables would be of some help in predicting one or another index of performance, but they do not operate consistently with all dependent measures. For example, there is percentage urban, the best predictor of college entrance (N). But we must contrast the positive relationship between those two variables with the negative association (-.113) between percentage urban and the 12/5 ratio (N). Also, there is median income (N), ranking 7th as a positive correlate of ADA (N), 4th as a positive correlate of non-retardation (N), and 7th as a positive correlate of college entrance (N), but 34th as a negative correlate of the 12/5 ratio (N). Three other variables that rank in the top four in correlations with one performance index, but which either reverse signs or fall way down in the rankings in other relationships, are county population, percentage white-collar (N), and percentage college educated (N).

Not surprising is the fact that among our independent variables the consistent predictors of white performance are fewer than the predictors of Negro performance. Many variables were included primarily because of their expected association with the latter, with much less reason for a relationship to white performance. As it turns out, 22 of the 36 predictor variables show some discrepancy in signs in their average correlations with the five different measures of white performance. Only 16 of the 36 had the same fate in predicting the measure of absolute Negro performance.

The best correlate of the achievement of white students is population per household (W). It is as consistently good a predictor as was median education (N) for Negro performance. Both have average ranks of 3.8 (from a possible range of 1 to 36). White household size correlates -.257 with ADA (W), -.370 with 12/5 ratio (W), -.300 with non-retardation (W), -.292 with college entrance (W), and -.291 with high school enrollment rate (W). In other words, the larger the average white household in a county, the more likely it is that educational performance of whites in the county will be poor. Only three within-state correlations deviate from the overall trend of negative correlations between performance (W) and household size (W). These involve Florida (.175) and Louisiana (.006) ADA (W) and Texas (.212) college entrance (W).

The only other variable whose average rank as a predictor of white performance falls below 10.0 is per pupil expenditure (W). In general, one can expect to find better white performance where more money is being spent on the education of whites.

Other fairly strong general correlates of white performance are median income (R) and median education (R), percentage Negro (1960 and 1900), and teachers' education (R). Where Negro income, education, and teachers' training are relatively low -- that is, where the relative standing of whites on these variables is relatively high -- the absolute performance of white pupils in school tends to be best. It also tends to be good where there is a large percentage of Negroes in the population.

The best of the some-time, but not-consistent predictors of white performance are median education (W) and percentage college education (W), median income (W) and population change (overall and W). Median education (W) is especially interesting in its operation. Its Negro counterpart, we may recall, was the strongest correlate of Negro performance. It also ranks 1st, 2nd, and 1st as a positive correlate of non-retardation (W), college entrance (W), and high school enrollment rate (W), respectively. Yet its overall predictive power is completely undermined by failure even to correlate in the same direction with ADA (W) and the 12/5 ratio (W). In both cases, 6 of 11 states show negative relationships between these two performance measures and median education (W), and the overall mean correlations are -.014 when ADA (W) is concerned and -.063 when the 12/5 ratio (W) is used. Percentage college-educated (W) works the same way as median education (W) -- a highly reliable positive correlate of white performance in three cases, but a slightly negative correlate of ADA (W) and the 12/5 ratio (W). Median income (W) parallels both of the adult education (W) variables in the directions of its relationships with the five white performance measures. But it displays a strong negative correlation (-.348) with the 12/5 ratio (W) -- hardly permitting an explanation of random error to account for the deviation from an expected positive relationship. The population-change-vs.-white-performance inconsistencies occur when we observe fairly strong positive mean correlations with non-retardation (W) and college entrance (W), but even higher-ranking negative correlations with ADA (W) and the 12/5 ratio (W). Thus, on some indices, white performance improves in growing counties, while on some other indices, performance declines in the same counties.

The number of unreliable predictors is vastly reduced when we come to the correlates of relative Negro performance. Here we have six (rather than five) dependent measures, to predict; yet, only four of the 36 independent variables have any trouble in predicting them all in the same direction. Number of acts of violence and median income (W) each correlate positively with three performance (R) measures and negatively with the other three. Percentage in white-collar jobs (N) correlates positively with all but non-retardation (R), and median education (W) relates negatively with all but ADA (R). Of these four deviant predictors, only the last -- median education (W) -- has any noteworthy success in relating to the individual relative performance measures. It manages to rank fifth among correlates of non-retardation (R) with a -.254 mean correlation.

Skipping to the best predictors of relative performance, we find seven variables with average rankings below 10.0. This compares to the six involving absolute Negro performance and the two involving white performance. Heading the list is median education (R) which has an average rank of just 2.7. Its correlations with the relative performance measures are as follows: .374 with ADA (R), .442 with the 12/5 ratio (R), .327 with non-retardation (R), .262 with college entrance (R), .418 with high school enrollment rate (R), and .361 with the Census Retention Index (R). Only the first of these -- the correlation with ADA -- ranks anywhere lower than third in its respective category; this particular relationship stands eighth among correlations with ADA (R).[7] Thus, we have renewed evidence that the education of adults in a county may be an important determinant of the success in educating the children. Where the parents are better educated, the children will be, too. School performance of Negroes relative to whites is strongly predicted by the level of education of Negro adults relative to whites. We recall the reversals that median education (W) had in predicting two indices of white performance. But median education (W) was an outstanding correlate of the other performance (W) measures; this plus the variable's success in predicting both absolute and relative Negro performance, makes it a leader among the independent variables of this study as a predictor of overall performance.

Following next are two indices of the relative support given Negro schools, as compared to white schools, by the community. Pupils per teacher (R) and per pupil expenditure (R) both rank in the top five, on the average, in predicting the various measures of relative performance. These two variables are opposite sides of the same coin -- high expenditures will tend to mean less crowded classrooms and fewer pupils per teacher. It is to be expected, then, that the effects of these reliable and strong correlates of relative performance will be in opposite directions. Expenditures are positively related to performance; pupils per teacher, negatively related.

Another variable which ranks as high as second in predicting non-retardation (R) and never any poorer than ninth (when predicting relative college entrance) is the percentage of Negroes in the 1960 county population. This is a variable that had been noted earlier as a fairly strong negative correlate of absolute Negro performance and a fairly strong positive correlate of white performance. Its even higher status as a negative correlate of relative Negro performance, then, is not surprising. Where the percentage of Negroes in a county is larger, the performance of Negroes in the schools is poorer. And this effect is even greater when we compare Negro and white performance, since the latter tends to be improved under the same circumstances.

Median education (N), median income (R), and pupils per teacher (N) are the three remaining variables whose average ranks as predictors are less than 10.0. There are no surprises here. The education and pupils per teacher measures are parallels of variables already noted for their predictive power -- the only difference is that we are now talking of absolute, rather than relative, standing of Negroes on these dimensions. And we should have expected median income to resemble median education as a predictor as indeed it does,[8] since the two are so closely related as indices of socioeconomic status.

Those less strong relationships between other independent variables and performance (N and W, as well as R) are indicated in Chart B which summarizes the zero-order correlational findings in terms of the hypotheses stated in Chapter I. Altogether, only five hypotheses sail through without any impediment to their confirmation. These are the ones involving percentage Negro, family size, per pupil expenditure, teacher's education, and pupils per teacher. Median education, percentage with college education, percentage employed in agriculture, and Negro voter registration are other noteworthy predictors of Negro performance, at least. But the rest of the independent variables produce undependable, or unspectacular at best, results as correlates of performance. Two hypotheses have yet to be tested, these requiring the application of controls which will be introduced in the next chapter.

We have now seen how our many independent variables have fared as separate predictors of educational performance. Rather than discuss these findings fully at this point, let's wait until we have seen how some of these variables operate in combination and how they operate when other variables are controlled for. Such information can help us further to ascertain the relative predictive power of the variables. Then, in Chapter VI, we shall be ready to discuss explanations of our findings as well as their implications.

CHART B

SUMMARY OF CORRELATIONAL FINDINGS WITH RESPECT TO RELATIONSHIPS HYPOTHESIZED IN CHAPTER I

Hypothesis	Confirmation or Rejection of Hypothesis, by Form of Performance		
	Absolute Negro Performance	Absolute White Performance	Relative Negro Performance
1. Positive relationship between county population and performance	?	?	+
2. Positive relationship between urban percentage and performance	?	?	+
3a. Positive relationship between overall population increase and performance	?	?	+
b. Positive relationship between population increase by race and performance of that race	?	?	+
4a. Negative relationship between percentage Negro and Negro performance; positive relationship for white performance (using 1960 Negro percentage)	++	++	+++
b. Same as 4a, except using 1900 Negro percentage	++	++	++
5. Positive relationship between family income and performance	?	?	+++
6. Positive relationship between percentage of white-collar workers and performance	+	0	?
7. Positive relationship between median education and performance	+++	?	+++
8. Positive relationship between percentage with college education and performance	++	?	++

CHART B, Continued

Hypothesis	Confirmation or Rejection of Hypothesis, by Form of Performance		
	Absolute Negro Performance	Absolute White Performance	Relative Negro Performance
9. Positive relationship between percentage of children living with both parents and performance	?	0	?
10. Negative relationship between family size and performance	++	+++	++
11. Negative relationship between percentage in agriculture and performance	++	?	++
12. Negative relationship between percentage in manufacturing and performance, controlling for urbanism	X	X	X
13. Negative relationship between percentage of blue-collar workers and performance, controlling for urbanism	X	0	X
14a. Positive relationship between overall per pupil expenditure and performance	+	++	+
b. Positive relationship between per pupil expenditure by race and performance of that race	++	+++	+++
15. Positive relationship between level of teachers' education and performance	+	0	+
16. Negative relationship between pupils per teacher and performance	+++	0	+++
17. Positive relationship between Negro voter registration and performance of both races	++	/	++

CHART B, Continued

Hypothesis	Confirmation or Rejection of Hypothesis, by Form of Performance		
	Absolute Negro Performance	Absolute White Performance	Relative Negro Performance
18a. Negative relationship between frequency of lynchings and performance of both races -- using lynchings up to 1920	?	/	+
b. Same as 18a, except using lynchings 1920-61	?	/	+
19. Negative relationship between frequency of recent racial violence and performance	?	?	?

Notes

Where the independent variable is measured separately by race, test of hypothesis involves only the relationship of similarly based variables; e.g., absolute Negro family income with absolute Negro performance. Where no "relative Negro" measure of an independent variable is used, "confirmation" means the relationship between the independent variable (N) and performance (R) is in the same direction as the predicted relationship between the independent variable (N) and performance (N).

Meaning of symbols:

+++	Strongly confirmed -- average rank as predictor below 10.0 in predicted direction
++	Moderately confirmed -- average rank as predictor 10.0 - 19.9 in predicted direction
+	Weakly confirmed -- average rank as predictor 20.0 and above in predicted direction
?	Incomplete confirmation -- relationships not always in predicted direction
/	Rejected -- relationships consistently in opposite direction from predicted
0	Relationship not tested
X	Test of hypothesis delayed until next chapter

Chapter IV, Footnotes

1. We shall denote these in the text as (N), (W), and (R), repectively.

2. While this latter variable was originally treated as a measure of retardation, by reversing the signs in correlations, we are now able to view it as a measure of non-retardation. It should now be positively related to other performance measures. The sign reversal is what we would obtain if we had used the complement of each county's rates in the original computations. (A retardation rate of 20 percent is the same as a non-retardation rate of 80 percent, but signs in correlations do change if the complement is used.)

3. College entrance data are missing for Tennessee.

4. We recall that the relationships between these two variables was found to average slightly negative even within each race.

5. All but median education and median income have negative relationships with ADA.

6. This is to be expected, of course, because any variable that tends to affect both white and Negro performance in the same way will have a lesser effect on the performance of Negroes relative to whites than on the absolute performance of Negroes. This is seen consistently in our tables of correlational findings.

7. Incidentally, the only within-state negative correlation between median education (R) and any relative performance measure is the -.008 in Texas involving ADA (R).

8. Both are positively related to performance (R).

CHAPTER V

EFFECTS OF SELECTED INDEPENDENT VARIABLES IN COMBINATION

The previous examination of the effects of predictor variables taken one at a time would be sufficient if the independent variables were not related to each other. But there are some strong associations among the independent variables, and these can be used to clarify the interpretation of zero-order relationships. Because of this, we must examine the relationships under conditions where the effects of other independent variables are controlled for.

In this regard, we have selected two main general areas for investigation:

1) To test two hypotheses held over from the last chapter, and
2) To find out the extent to which our best individual performance predictors are complemented or undercut by certain other independent variables.

Two More Hypotheses

The first order of business is to complete the unfinished task of testing initial hypotheses. The two hypotheses remaining to be tested have to do with the effects on educational performance of (1) employment in manufacturing and (2) percentage of blue-collar workers. Both variables reflect the degree of industrialization in a county and were predicted to have negative relationships with performance when the effects of urbanism are held constant. We had expected urbanism to be positively related to performance and to both percentage in manufacturing and percentage in blue-collar jobs. But among urban counties, those most dependent on industry were expected to have lower performance levels than those with other economic bases. The same would be true in rural counties. To repeat, for a given level of urbanism high manufacturing and blue-collar employment would be associated with low educational performance.

Our data generally fail to confirm these hypotheses. Table 50 shows the changes in the relationship between blue-collar employment (N) and performance (N and R) when we control for urbanism.[1] These changes are usually very small. With only one exception, the partial correlation coefficients have the same positive sign and about the same magnitude of size as the zero-order correlations had. The one exception is with the somewhat deviant college entrance rate, which has a slightly positive relationship (.054) with blue-collar employment before controlling and a slightly negative one (-.062) afterwards. This is the extent of evidence supporting the initial hypothesis, and we must conclude in general that blue-collar employment is, at least for Negroes, moderately to weakly related in a positive direction to educational performance, even when urbanism is controlled.

The degree of urbanism also does not seem to affect the relationship between manufacturing employment and performance (Table 51). Again, this relationship is generally positive -- perhaps even a bit more strongly, though not strong enough to cause too much interest. The only negative signs involve college entrance (N), the 12/5 ratio (W), and college entrance (W). And in every case, the signs are unaffected by the partialling out of urbanism.

Thus, neither of our hypotheses is confirmed.[2] Blue-collar and manufacturing employment do not relate negatively to educational performance, and the degree of urbanism has little, if any, effect on the relationships. More important, perhaps, is the disclosure that neither the blue-collar nor the manufacturing variable rank as consistently outstanding predictors of educational performance. They will occupy a place of only secondary interest in our later discussion.

Independent Variables in Isolation and Combination

The final step in manipulation and analysis of these correlational data (prior to a full-scale discussion and attempted interpretation of results) is to weigh the effects of various independent variables on performance (1) with other variables controlled for and (2) in combination with other variables. In selecting the independent variables for use here, we have relied on two main criteria: (1) that they have strong zero-order correlations with dependent variables of one type (N, W, or R) and (2) that they be reasonably considered as possible direct determinants of educational performance. In addition, when two or more independent variables seem highly correlated and generally reflective of the same underlying factor (such as median education and percentage with college education), often only one has been used in the multiple and partial correlational analysis. We shall first look at the results for each race separately, then at Negroes relative to whites. In the next chapter, we shall attempt to summarize.

Predictors of Absolute Negro Performance

In dealing with absolute Negro performance, the following variables have been used at this stage of analysis: median adult education (N), percentage in agriculture, per pupil expenditures (R and N), population per household (N), and percentage Negro (1960). We shall examine each of these to see whether they retain their ability to predict performance when controls are applied. In general, we shall most often work with the average of correlations involving all five measures of absolute Negro performance with particular combinations of the independent variables.

Regardless of which other independent variable is controlled for, median education (N) stands as the best predictor of Negro performance at the level of first-order partials (Table 52). The average correlations range from .210 when percentage in agriculture is the control to .272 when population per household (N) is held constant. As at the zero-order level, the single performance measure that tends to be least strongly related to median education (N) is the 12/5 ratio (N). Only five (out of 30) partials involving median education (N) as the independent variable fall below .200, and three of these are with the 12/5 ratio.

Percentage in agriculture usually continues as the second best predictor of absolute Negro performance, even when a single control is applied. In general, it trails only median education (N) in its average partial correlations with the dependent measures. The range is from -.132 to -.232. The -.132 occurs when median education (N) is the control and is interesting from two standpoints: (1) it represents a reduction to less than 50 percent of the original average correlation (-.296) between percentage in agriculture and performance (N) -- none of the partials involving median education (N) fell to less than 62 percent of the original average correlation; and (2) it reduces the strength of association between agricultural employment and performance below that of two other independent measures, most notably population per household (N), which averages -.164 in correlating with performance (N), holding median education (N) constant. Thus, the strong relationship between percentage in agriculture and median education (N) (-.589) tends to explain much of the relationship between each of these variables and performance, but accounts for a much greater portion of the relationship where agricultural employment is the predictor of performance.

In general, population per household (N) holds its own fairly well at the level of first order partials. Not only is there the aforementioned example of its ascendency over percentage in agriculture as a predictor, but household population (N) ranges from -.163 to -.210 in negative association with performance (N) with one control applied. None of its partials falls below 63 percent of the original -.259 average correlation with the five performance measures.

Controlling for median education (N) has, as expected, the greatest effect in diminishing the predictive power of per pupil expenditures (N or R). Expenditures (N) is reduced to .143 from .250 in its average correlation with performance (N) when the effects of median education (N) are partialled out. The reduction is even more drastic -- from .260 to .122 when expenditures (R) is used as the independent variable. Still, in all cases, as with household population (N), agricultural employment, and median education (N), relationships with performance generally remain intact, even if their strengths are somewhat weakened after single controls are applied. At least there are no reversals of sign, either in the correlations with individual measures of performance (N) or in the average correlations with all five performance indicators.

This perfect picture is not maintained when we look at the final independent variable to concern us in this section. Percentage Negro (1960) still maintains negative average correlations with the performance measures. But the reduction is severe in a couple of instances -- from -.228 at the zero-order level to -.067 when median education (N) is controlled and to -.065 when per pupil expenditures (R) is controlled. These are drops of over 70 percent with just one control variable introduced. In addition, we find three reversals in sign where percentage Negro is actually positively related to single measures of performance (N) when a control variable is introduced. Two of these are with per pupil expenditures (R) as the control; the correlation is +.059 between percentage Negro and the 12/5 ratio[3] (N) and +.020 between percentage Negro and college entrance (N).[4] The third sign reversal (+.062) also involves college entrance (N) as the dependent measure, with median education (N) as the control. Thus, in general, percentage Negro appears to lose most as a predictor of absolute Negro educational performance when selected controls are applied.

The picture does not change appreciably as we increase the number of controls used simultaneously. Let us skip to the level of fourth-order partials to see what happens when dependent and independent variables are related, with all other independent variables simultaneously controlled for.

When all other independent variables are controlled for, median education (N) stands out again as the best single predictor of performance (N). Depending on whether per pupil expenditures (N) or (R) is used as the fourth control variable, median education (N) still carries a .168 or .178 average correlation with the performance measures. This is just about half the original (.336) correlation between median education (N) and performance (N).

Population per household (N) holds up somewhat better than the remaining independents and emerges as the second best predictor. Its fourth-order partials, too, are about one-half the original correlation (-.259) between it and performance (N); they are -.125, with per pupil expenditures (N) as one of the controls, and -.135, with expenditures (R) as one control.

Expenditure (N) correlates .113 with performance (N) after controlling for the four other independent variables, as compared with an original average correlation of .250. The corresponding figures for expenditures (R) are .089 and .260. The predictive power of percentage in agriculture shows marked deterioration at the level of fourth-order partials. Whereas this variable was the second best predictor at the zero-order level, it ranks relatively low when all of the other independent variables are controlled for. The change is from -.296 with no controls to -.067 and -.060 with four controls.[5] The change for percentage Negro is even more drastic, involving a reversal of signs -- from -.228 to +.007 and +.041.

Just how well do these five variables predict performance (N) when working in conjunction with one another? With all five taken together (Table 53), the average multiple correlations with the five performance indicators is .414 and .410, depending on whether expenditures (N) or (R) is one of the five predictors. Thus, about 17 percent of the variance is accounted for by these independent variables. ADA (N) is predicted best, with multiples of .512 and .509, while the 12/5 ratio (N) is least well predicted -- with correlations of .344 and .335. Actually, the multiple correlations with performance (N) are just about as good without including percentage Negro as a predictor. The average multiples with that variable excluded are still .411 and .404. On the other hand, the exclusion of any other variable or set of variables from the multiple has greater effects in diminishing the overall predictability of performance. Thus, we conclude that the county levels of median education, agricultural employment, household size, and per pupil expenditure[6] are all useful in developing a scheme for predicting the absolute level of educational performance of Negroes in a county.

Predictors of White Performance

Among the most consistent and powerful single predictors of absolute white performance were population per household (W), per pupil expenditures (W), median income (R), median education (R), and percentage Negro (1960). In addition, median education (W) and median income (W) were very strong positive correlates of the measures of white performance, while showing inexplicable negative relationships with two other performance indices, ADA (W) and the 12/5 ratio (W). It is these seven independent measures -- two of them simply reflecting different aspects of two other included variables -- that we shall examine for their multiple and partial correlations with white performance.[7]

Even introducing just one control considerably affects the operation of some of these selected variables on performance (W) (Table 54). Only two predictors escape unscathed, still relating consistently to all measures of performance as they had done at the zero-order level. Household size (W) remains the most reliable correlate. Its average partial correlations with performance (W) range from -.319 -- when median income (W) is the control -- to -.233 -- when per pupil expenditures (W) is controlled for. Without any controls, the average correlation with performance is just -.302.[8] Moreover, the lowest correlation between household size (W) and any single white performance measure is the relatively large -.197 between the former and ADA (W), with PPE (W) held constant.

Per pupil expenditure (W) is the only other variable to maintain perfectly consistent relationships with performance (W) at the level of first-order partials. All but two of the thirty partials between PPE (W) and individual measures of white performance are above .101; the two exceptions are .092 and .045, between PPE (W) and non-retardation (W) and college entrance (W), respectively, both times with median education (W) as the control. The average correlations for PPE (W) with performance (W) range from .283 (median income (W) controlled for) to .187 (household size (W) controlled for). Without controls, expenditures (W) average a .269 correlation with the five white performance measures.

Median income (W) continues as an important control variable when we examine the association between median education (W) and performance (W) at the level of first-order partials. It may be recalled that education (W) originally had a slight negative relationship with two measures of performance (W), ADA and the 12/5 ratio. But these relationships become positive (.046 and .251, respectively) when median income (W) is controlled for. Overall, the average correlation between education (W) and performance (W) with income (W) partialled out is a healthy .268. The lowest average first-order partial between median education (W) and performance (W) is .171 with per pupil expenditures (W) as a control. But here there are those two sign reversals in the individual correlations between education and single measures of performance.

Also showing some sign reversals after the introduction of one control variable are three other independent variables, percentage Negro (1960) and median income (R) and median education (R). The first of these, percentage Negro, was positively related to all measures of performance (W) at the zero-order level. The average correlation was .183. Controlling for median income (W), as above, enhances the predictive power of percentage Negro, the average correlation rising to .206. But use of median income (R) or median education (R) as controls actually produces negative correlations between percentage Negro and college entrance rate (W) or non-retardation (W). And when per pupil expenditures (W) is controlled for, the association between percentage Negro and the various performance measures is reduced so much (including one sign reversal) that the average partial correlation is just .037.

The measures of relative Negro income and education continue to be negatively related to white performance in general.[9] However, several average correlations are reduced to .100 and below.[10] And sign reversals occur several times when individual measures of performance are used. Controlling for percentage Negro or per pupil expenditures (W) causes the sign to shift to positive in correlations between education (R) and either ADA (R) or 12/5 ratio (R). Actually, median income (R) suffers only one such sign reversal at this level of first-order partials, but many of the partial correlations are below .100. In fact, only the relationships between income (R) and college entrance (W) remain consistently higher than -.100, when we introduce controls.

There is still the interesting variable, median income (W) to examine again, briefly, before moving on to higher levels of partialling. This measure, which tends to increase the predictive power of several other independent variables, still does not appear to be a good predictor in its own right, even after single controls are introduced. It is consistently negatively related to ADA (W) and the 12/5 ratio (W), and is usually positively related to the other three performance (W) measures, regardless of which control is used. It is noteworthy, however, that controlling for median education (W) does have an appreciable effect on income (W)'s relationship to performance -- just as the opposite was found to be true earlier. What happens here is that with median education (W) controlled for, median income (W) becomes more regularly a negative correlate of white performance. Thus, for a given level of white education, the higher the income, the lower the performance of whites in the county. The average correlation between income (W) and performance (W) with education (W) controlled for is a modest -.108, but this contrasts sharply with an average zero-order correlation of

+.087. Moreover, four of the five single measures of white performance now relate negatively to income (W) at the first-order level. Only college entrance (W) is a holdout, but even here the association between income and it is reduced from .474 all the way to .105.

When more than one variable is controlled for at a time, population per household (W) continues as a reliable predictor of white performance. In no case does the average correlation between household size (W) and performance (W) fall below -.230, even when as many as four other independent variables are simultaneously controlled for. And never is there any danger of a sign reversal in the relationships between household size (W) and individual white performance measures. With four controls, there is generally some diminution of the power of expenditures (W) to predict performance. We see weak sign reversals in the relationship of PPE (W) and non-retardation (W), but the overall average correlation between expenditures (W) and performance (W) stays above .100 regardless of the combination of control variables used. We may conclude that, in general, expenditures predict white performance relatively well, even when the effects of other variables are partialled out.

As indicated at the level of first-order partials, income (R), education (R), and expenditures (W) all tend to cut into the value of percentage Negro as a predictor. In fact, when all three of these variables are included as controls at the level of fourth-order partials, the result is a weak negative average correlation between percentage Negro and performance (W). Actually, all of the partial correlations at this level are essentially zero -- ranging from .044 to -.025. This is in contrast, we repeat, to an average zero-order correlation of +.183.[11]

Relative (Negro) income and education show increased decline in power to predict performance (W) as we introduce additional control variables beyond the level of first-order partialling. While the average correlations never change sign (they always show a negative relationship between performance (W), on the one hand and income (R) or education (R), on the other), they are reduced to below -.070 where four controls are used. Of the individual performance measures only college entrance (W) is consistently and fairly strongly related (negatively) to the two measures of relative socio-economic status when multiple controls are introduced.

Taking the absolute measures of these same two indices of social class, we find a rather confusing picture. Median income (W) still consistently shows negative correlations with the 12/5 ratio (W). In the case where both median education (W) is controlled for, along with the other independent variables, the relationship between income (W) and ADA (W) tends to be slightly positive. On the other hand, controlling for education (W) in conjunction with other controls, tends to reduce the originally positive relationships between income (W) and the other three performance (W) measures -- even to the point of frequently causing these relationships to become somewhat negative. The result is a slightly negative average partial correlation between income (W) performance (W) when median education (W) is one of the control variables. In the case where education (R) serves as a control instead, the average correlation remains on the positive side of the ledger.

Meanwhile, median education (W) as an independent variable maintains fairly strong partial correlations with individual measures of performance (W). Controlling does not appreciably detract from the strengths of relationships between the performance measures and education (W). But sign inconsistencies persist -- as seen in the negative partial correlations with ADA (W) and the 12/5 ratio (W). Because of this, at the level of fourth-order partials, the average correlations between education (W) and performance are not too strong (.056 and .132), despite fairly sizable correlations involving single indices. Thus, the utility of median education (W) as a predictor of white performance must be said to vary appreciably with the type of performance measure and the variables used as controls. Education is not the generally consistent predictor of white performance that it was of absolute Negro performance.

Surprisingly, the rather haphazard job of predicting white performance done by most of the above correlates is not reflected in the multiple correlations of these variables with performance (W). In fact, when we put all five[12] independent variables together in one multiple correlation (Table 55), the result is a somewhat larger coefficient than for our five predictors of absolute Negro performance earlier. The average multiplesrange from .403 to .498 -- accounting for from 16 percent to 25 percent of all the variance in performance (W).[13] At least part of the explanation for the success of these variables in combination is that they are generally not too highly related to one another.[14] Thus, their individual relationships with performance (W) tend to be additive to a larger degree than was the case with the predictors of performance (N).

Despite this fact, however, considerable doubt remains over the general utility in predicting performance (W) of several of the variables dealt with in this section. All but household size (W) and per pupil expenditures (W) show a lack of uniformity in the way they relate to the various measures of white performance. Part of this undoubtedly can be attributed to the less than unidimensional nature of our measures of performance. But this did not interfere so noticeably when we were dealing with predictors of absolute Negro performance. At any rate, it is hard to interpret the fairly large multiple correlations with white performance when the average conceals the fact that some of the component elements are not relating consistently in the same way with all measures of performance. In our discussion of findings in the next chapter, we shall have to be cautious in making too many generalizations about the county factors most conducive to high educational performance by whites.

Predictors of Negro Performance Relative to That of Whites

Of the six variables that ranked best as predictors of performance (R) four are included in the multiple correlational analysis involving this dependent variable. These are, in order of average rank as a predictor, median education (R), per pupil expenditure (R), percentage Negro (1960), and median income (R). The others of the six, median education (N) and pupils per teacher (R), are not included because it is felt that education (R) and expenditures (R) can represent these variables satisfactorily.

On the other hand, three less powerful predictors at the zero-order level are considered in our discussion of multiple and partial correlations: percentage in agriculture, percentage urban, and overall population change (1950-1960). Actually, agricultural employment does stand out as a strong negative correlate of four of the six measures of relative performance. Its average rank as a correlate would be near the top if it were not for a weakness in predicting college entrance (R) especially. The urbanism and population change variables, while quite undistinguished by themselves in predicting performance (R), represent an area that seems particularly relevant theoretically to educational performance. The dynamicism implicit in population growth and often assumed to be related to urbanism should have some effect on educational performance. It was thought that perhaps this effect would become discernible when other control variables were introduced.

Partialling can have a sizable effect on all of the relationships between the selected independent variables and performance (R). For example, controlling for just one variable (Table 56), percentage Negro, can reduce the average correlation of education (R) with performance (R) from .364 to .244. Percentage Negro also seems best to account for the relationship between expenditures (R) and performance (R). With it as a control, the average correlation falls from .285 to .155.

In general, the four top predictors -- education (R), expenditures (R), income (R), and percentage Negro -- are affected most in the first order partials when the control used is one of the four. In all such cases, the average correlation is reduced by at least .100.

Still, all of the average correlations involved remain above

±.100, except for the relationship between income (R) and performance (R), with education (R) controlled for. Here the average first-order partial correlation is .070, as compared to .271 when education (R) is not held constant.[15]

Percentage employed in agriculture holds its own relatively well in average correlations with performance (R) at the level of first-order partials. No control variable reduces the correlation to below -.100 from its original level of -.251.[16] But there are some sign reversals when individual measures of performance are considered. Practically any control shifts the relationship between college entrance (R) and percentage in agriculture from its original -.036 to slightly positive.[17] Also, when the percentage Negro is partialled out, the relationship between percentage in agriculture and non-retardation (R) changes from -.135 to +.019.

While there is only an occasional sign reversal in the relationship between single measures of performance (R) and the five already discussed predictor variables, such an occurrence is much more prevalent with the remaining two predictors, percentage urban and population change. In fact, controlling for percentage in agriculture, percentage Negro, or expenditures (R) is enough to reduce the average correlation between performance (R) and either percentage urban or population change to virtually zero. One average first-order correlation -- between percentage urban and performance (R), with percentage in agriculture controlled for -- is actually -.035, as compared to the original correlation of .110.

While the effect of introducing a single control is to appreciably diminish the relationship between predictor variable and performance (R), the relative standing of independent variables as predictors is not affected greatly. Median education (R) still appears to have the greatest predictive power (none of its partials fall below .244); expenditures (R) is second (its lowest first-order partial correlation with performance (R) is .155); percentage Negro, percentage in agriculture, and income (R) occupy intermediate positions as predictors, even after a single control variable is introduced; and percentage urban and population change remain at the bottom in predictive power. It should also be pointed out that the last two variables have very little effect as controls on the relationships of the other five independent variables with performance (R). Thus, these two have yet to prove their utility either as predictor or control variables.

In general, trends noted in preceding paragraphs continue as the number of controls is increased. With all other variables held in control together, median education (R) remains the single most reliable predictor of performance (R). The average partial correlation is still as high as .199. And all correlations with individual measures of performance (R) are well above .100. Thus, we see virtually no effect from raising the level of partial correlations to the sixth-order, at least where median education is the independent variable.

Per pupil expenditures (R) is the only other predictor variable to remain consistent in sign in its relationships both with overall performance (R) and with the individual performance indexes. The average partial correlation, however, is a not-too-robust .091, and the range of individual correlations is from .229 (when the 12/5 ratio is the performance measure) to just .013 (when high school enrollment is the index of performance).

On the other hand, percentage employed in agriculture is just about as strong as expenditures in its overall association with performance (R) at the order of sixth-order partials. Its average correlation is -.083. But the value of this predictor is marred by sign reversals -- two among the six correlations with individual measures of performance. In fact, controlling for all six other independent variables raises the partial correlation between percentage in agriculture and college entrance (R) to .117; it had been -.036 with no controls.

The average correlations of performance (R) with the remaining four independent variables are all less than ±.040 at the level of sixth-order partials. Numerous inconsistencies in the directions of relationships are found involving all of these predictor variables in association with the individual measures of performance. Most extreme is the case of percentage Negro, which was originally a consistent negative correlate of performance. Now, it is positively related (albeit just slightly) to four of the six performance indexes. And the average correlation is +.023. As for median income (R), population change, and percentage urban, all have negative partial correlations with two of the separate performance measures, but they do retain, ever so weakly, their average positive relationship with overall performance (R). The average correlations are .035, .026, and .004, respectively.

In summary, we find median education (R), and per pupil expenditures (R) to a lesser degree, the only independent variables able to stand up consistently by themselves as predictors of performance (R) even with a maximum of control variables introduced. Now, let us just look briefly (Table 57) at how well the independent variables do in combination as multiple predictors of performance (R).

All seven variables together produce an average multiple correlation with performance (R) of .452, accounting for about 20 percent of the variance in the dependent variable. The multiple correlations with separate performance measures range from .362 (with college entrance) all the way to .556 (with the 12/5 ratio).

It should also be noted that if the two least reliable predictors (population change and percentage urban) are removed from the multiple correlation, the average drops only .009 to .442 -- still accounting for just about 20 percent of the variance (not shown in table). Excluding either per pupil expenditures (R) or percentage Negro, along with population change and percentage urban, cuts very little into the average multiple predictive power of the remaining independent variables. The correlations are still .431 and .433. Almost as large are the average multiple correlations produced by certain combinations of two or three independent variables. Percentage in agriculture, median education (R), and expenditures (R) together have an average correlation of .425 with performance. And the multiple correlation involving percentage in agriculture and education (R) as predictors is .409. Thus, little seems to be gained by combining more than two variables together in predicting performance (R). Adding the extra five independent variables to the prediction model raises the average multiple correlation by only .042, from .409 to .451. On the other hand, combining two variables together in a multiple correlation does improve on zero-order correlations in the power to predict performance (R). Even that best single predictor, education (R), is enhanced noticeably by combining with percentage in agriculture or expenditures (R). From a zero-order average correlation of .364 the jump is to .409 or .398, respectively, at the level of first-order multiple.

We have now completed the statistical description of the relationships between various independent variables and the several measures of educational performance. From this we have been able to identify the best single predictors of performance and to see the extent of their predictive power. Moreover, we have examined the effects on relationships from combining and controlling for additional independent variables. Now must come an attempt at selecting from this huge amount of statistical data that which lends itself to useful interpretation. In the next chapter, we shall discuss our findings and attempt to derive a set of meaningful conclusions from the data.

Chapter V, Footnotes

1. In our discussion here, we shall refer to partial correlations. To obtain these, we have used the weighted mean zero-order correlations in the formula for Pearsonian partial correlations. This seems no more and no less justifiable statistically than was our use of weighted mean correlations in the first place.

2. Incidentally, a second look at these two hypotheses was made by constructing 3 x 3 contingency tables showing the relationships, for given levels of urbanism, between certain indices of performance and both manufacturing and blue-collar employment. The performance measures used were college entrance, high school enrollment rate, and ADA. The tables were constructed for the states of Alabama, Arkansas, North Carolina, and Texas. The findings for these four states are generally the same as those found in the overall correlations above. For example: (1) Percentage in manufacturing tends to be negatively related to college entrance for both races, regardless of the level of urbanism. (2) On the other hand, ADA tends to be positively related to manufacturing employment for both races and all levels of urbanism. Slight reversals of this latter trend show up for whites in Alabama counties of over 45% and under 20% urban and for Negroes in North Carolina counties of less than 45% urban. (3) The relationship between manufacturing employment and high school enrollment rate (N) shows many inconsistencies from state to state, with perhaps a slight overall negative trend showing up at least in the high and low urban counties. For whites, the relationship tends to be positive for the high and middle urban groups, especially in Texas and Arkansas. (4) Blue-collar employment was related only to absolute Negro performance measures in the four states, again without any striking findings. The overall trend, despite occasional reversals within states, seems to be for a very slight positive relationship between performance and blue-collar employment whatever the degree of urbanism. This is true even when college entrance (N) is involved, but the tendency is so weak that it is hardly a contradiction to the earlier finding of a slightly negative mean correlation between the two variables for all states.

3. Changed from a zero-order correlation of -.159.

4. As compared to a zero-order correlation of -.114.

5. It should be noted, however, that agricultural employment remains an important negative correlate of some indices of performance (N), namely ADA (N) and non-retardation (N). It is the sign reversal in fourth-order partials with 12/5 ratio (N) and college entrance (N) that causes the low average of these partial correlations.

6. It doesn't seem to matter whether the absolute or the relative expenditure measure is used.

7. Of course, the two paired variables median income (R and W) and median education (R and W) will not be treated together in the analysis at any time.

8. Thus, controlling for one independent variable has very little adverse effect on the predictive of household size (W). In fact, it is enhanced somewhat when median income (W) is the control variable.

9. Remember that relative Negro performance can be considered as the complement or mirror-image of a measure of relative white performance. Just changing the signs of correlations involving the former ought to indicate the latter's degree of relationship with other variables.

10. Originally, income (R) had an average correlation of -.176 with performance (W), while education (R) and performance (W) had an average correlation of -.181.

11. It is also true that expenditures (W), in conjunction with either of the other two variables acting as controls, is enough to cause a negative average correlation between percentage Negro and performance (W) at both the second and third order of partials.

12. Not including both a relative and absolute measure of the same variable in the same correlation.

13. Taking fewer than five independent variables together also usually produces relatively large average multiple correlations.

14. Of course, income (W) and education (W) are a major exception, with a correlation of .678.

15. This relationship, incidentally, gives the only sign reversal at the first-order level, when we examine the individual measures of performance. With education (R) controlled for, the correlation between income (R) and the 12/5 ratio (R) actually becomes negative-changing from .245 to -.028.

16. Controlling for percentage Negro or expenditures (R) has the greatest effect, the resulting partial coefficients being -.122 and -.119, respectively.

17. The most marked shift is to .087 with expenditures (R) controlled for.

CHAPTER VI

WHAT IT ALL MEANS

A small number of variables appear sufficient for achieving a maximum of predictive power in accounting for variations in county educational performance levels. With only two or three key independent variables taken together, between 15 and 25 percent of the variation is explained, and little is added by including other variables to the prediction model. While a large amount of variation remains unexplained, it would appear that ecological measures can probably be no more effective than this in predicting performance.

Table 58 shows those variables that do the best overall job of correlating with educational performance, be it performance of whites (measured absolutely) or the performance of Negroes (measured absolutely or relative to whites). These variables are median education (except for weakness in predicting some individual measures of white performance), population per household, per pupil expenditures, and percentage employed in agriculture.[1] The household size variable has been related in our analysis only to absolute white and Negro performance measures. And agricultural employment stands as a reliable predictor only of relative Negro performance.[2]

The three predictors of absolute Negro performance combine for an average multiple correlation of .394. Of the individual performance (N) measures, ADA is best predicted, with the three independent variables producing a multiple of .457 (accounting for over 20 percent of the variance in ADA). None of the zero-order correlations between independent and dependent measure is less than ±.150; all of the two-factor multiples are above .250; and the lowest of the multiple correlations between all these predictors and a performance (N) measure is .341 involving the 12/5 ratio (N).

In comparison with the predictors of absolute Negro performance, the corresponding predictors of white performance show greater variation in the strength of their correlations with the individual measures of performance. Whereas the average third-order multiple is .469, the correlations with single performance measures range all the way from .319 (involving ADA) to .632 (involving college entrance). This range is, in large part, the consequence of variations in the ability of median education to predict the different indices of performance. It shows a negligible (negative) relationship with ADA (W) and a whopping .609 correlation with college entrance (W). The latter is the best single prediction of a performance measure in the entire table; it accounts for over 36 percent of all the variance in white college entrance rates.

The power of our three-variable model to predict relative Negro performance rates is intermediate between the power of the other two prediction models. The average multiple correlation is .425, accounting for about 18 percent of the variance in performance. This compares with average multiples of .394 (over 15 percent of the variance) and .469 (about 22 percent of the variance) for the predictors of absolute Negro and white performance, respectively. ADA and the 12/5 ratio are the best predicted individual measures of relative Negro performance. The three-variable multiple correlation with each is above .500. On the other hand, college entrance is rather poorly predicted by the three independent variables in combination -- mainly because of the weak contribution of percentage in agriculture to the prediction model. The multiple correlation with college entrance (R) is just .297. Thus, only about 9 percent of the variance in this measure of performance is accounted for by median education (R), per pupil expenditures (R), and percentage in agriculture; this is the poorest job done by any of the three-variable models.

Be that as it may, we have identified the most successful predictors (among those used in this study) of the educational performance of Negroes, of whites, and of Negroes relative to whites. Now we must turn to the question of what this all means. Of what value is the information we have been presenting? As we see it, there are two kinds of benefits derivable from these findings -- one practical, the other more theoretical.

From a practical standpoint, one would like to be able to use the information to improve the performance of today's youth in school. Depending on the interpretation of our findings, two methods of attack are possible. One would be used, if the independent variables are considered to be the actual causes or determinants of educational performance. The other would be employed if the predictor variables are thought to be correlates, but not necessarily causes, of performance. Neither statistical manipulation nor logic can tell us conclusively which interpretation is correct. Therefore, we shall explore the implications of both.

Independent Variables as Causes of Performance

The model of causal relationship would appear something like this:

$$\begin{tikzcd} A, B, C, D \arrow[d] & Q \arrow[dl] \\ X & \end{tikzcd}$$

A, B, C, D = independent variables identified in this study

X = educational performance

Q = other independent variable(s) accounting for variance in X unexplained by A, B, C, D or depressing the effects of A, B, C, D on X.

If we assume this causal relationship, then the obvious steps suggested for improving the educational level of children are the following:

1) raise the expenditures per pupil in the schools
2) increase the educational level of adults
3) encourage family planning and limitation of family size
4) reduce the proportion of the population dependent on agricultural employment, at least among Negroes

Of these four measures, the first would seem to offer the greatest promise of quick and broad success. It would affect the children directly, would reach all of the children (the others require some voluntary cooperation on the part of outsiders), and it would utilize the already existing institution of the schools. School programs would be expanded and improved but at least the framework is already there. Often in the case of the other three suggested measures, entirely new programs would have to be set up.

Of course, even raising per pupil expenditures is not an easy task in many communities. Probably most places feel they are expending as much of their resources on education as they can. The political bodies who apportion money for schools generally attempt to reflect community opinion in the extent to which they commit public funds to education. Many communities do, indeed, have such limited tax resources -- they are so poor -- that they cannot reasonably be expected to shoulder an additional expenditure for their schools. But a lot more could probably be done to inform citizens about the need and effectiveness[3] of spending as much money as possible on education. Such information might be expected to have a twofold outcome in (1) demands for increases in local expenditures; and (2) efforts to secure more outside aid, especially for those school systems too financially weak to assume the entire burden themselves.

As for the other three measures suggested for improving educational performance, all require more long range programs. But while their effect on children's education may not be immediate, their promise of benefits in other areas besides,education make them highly desirable.[4]

The initiation or expansion of adult education programs would be useful to improve the intellectual climate of homes, thus making a student's home environment more conducive for attention to school work. It would also help, in a more general sense, to make better citizens out of adults in the family and to make their lives more useful and enjoyable. Adult education programs already exist in many places. But to realize their potential value greatly increased effort should be made to expand these programs into all communities and to recruit those segments of the population not usually involved. Adults with college and high school diplomas often gain much by attending adult education courses. However, it is not their children, but rather the children of poorly educated parents, who are more likely to fall at the low end of our measures of educational performance. It is these latter parents who are less often involved in adult education and whose involvement would appear most essential for raising the level of educational performance of children, as well as for raising the minimum quality of citizenship behavior in our society. We should point out that any increase in adult education efforts, as well as in expenditures, should be applied in greater measure for Negroes than for whites, if the goal is closing the gap between Negro and white performance. For, up to now, in most places, Negroes are at a disadvantage on these independent variables, and our findings indicate this is associated with relatively poor performance by Negro children in the schools.

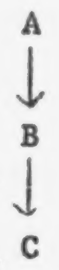
If family size affects educational performance, it would appear to be by virtue of the fact that children can receive more attention from their parents in small families. The natural curiosity of little children can become stifled when parents, as a defense against the noise level and confusion typical of larger families, choose to ignore questions and conversation with the youngest of their broods. Also at any given income level, the larger family has less material resources available for contributing to the intellectual stimulation of the individual child. But the effects of a program to encourage family size limitation can be on only those families not yet over-large -- the families not yet begun or those now small, but likely to grow. Thus, the expansion of birth control information services to reach more people[5] cannot be expected to have a very immediate effect on educational performance levels in a given community. But such an expansion may promise not only eventual improvement in educational performance rates, but also a reduction in demands for public assistance and a general improvement in the quality of family life both materially and in the social-psychological realm of intra-family interaction.

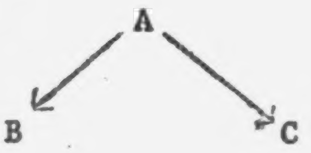
Reduction in agricultural employment is the fourth step apparently suggested by our correlational analysis of determinants of educational performance. If the extent of agricultural employment is determinant of educational performance in a county (as it may well be for Negroes at least) it is probably by way of affecting the level of cultural opportunities in the area. Rural communities generally do not support the kinds of cultural activities that can be expected to stimulate the intellectual development of children. (This would be expecially true for Negroes in the South.) Actually, outside factors have been contributing to the very process of de-ruralization for many years. The continued industrialization and urbanization of the South have meant a movement of persons from farm work to factory and to other kinds of city jobs. At the same time, increased mechanization has drastically cut down the need for manpower on the farms. But many areas are still heavily dependent on agriculture. The need to increase the tax base, to encourage local youth to stay in the area, and to raise the general level of the economy would seem to be enough to induce the more rural communities to embark on industrial development programs -- even without the evidence we have of a negative relationship between educational performance and agricultural employment. In fact, it would appear that most such places already have programs for seeking new non-farm employers. Our findings can be used mainly as additional incentive for such efforts. And even this effect may be limited by the fact that agricultural employment seems most related to relative Negro performance; the agricultural areas of the South are usually least concerned with closing the gap between Negroes and whites, even in the realm of educational performance.

Independent Variables as Correlates of Performance

What we have said above is valid only to the degree that we can assume direct causal relationships between the best predictors of performance and actual performance. If, as is quite possible, the predictors are no more than just predictors, what useful conclusions can we draw from our data? From the practical viewpoint, can we still use the information in any way to contribute to a program for improving educational performance? The answer is a definite yes.

In such a case, at least we have found some key indices of the causes of educational performance. One of two models of causation would seem to be in operation:


Predictors as Intervening Variables


Predictors and Performance as Dependent Variables

A = cause

B = predictor

C = performance

In both cases, but especially in the first, this is undoubtedly an oversimplification, since our findings do not account for anything near the total variation in measures of performance. More than a single underlying factor -- or even set of factors -- would have to be used to explain performance in its entirety. But with either simplified model as a starter, we can at least see the possible value of our predictor variables in identifying the underlying causes of performance. Perhaps by induction, but more likely by further research, we can use the most successful predictors of this study to point us toward the key determining variables.

By the inductive process, we might be led to seek some underlying feature of the county -- probably socio-economic in nature -- that is antecedent to median education, population per household, and percentage in agriculture. Something to do with the occupational structure or economic opportunity level of the county might fill the bill. Whatever this key variable might be specifically, it would affect our three "socio-economic" predictor variables and would also affect the intellectual atmosphere of the community directly -- thus enhancing (or diminishing) the academic effort of school children in the county. Such an underlying factor might also explain variations in per pupil expenditure, although the immediate antecedant variable here might be the level of community interest in education; if the local culture values education highly, this would be reflected in a relatively high level of school expenditure and also, perhaps, in more intensive efforts to encourage children to do well in school. We have meant only to suggest the possible nature of the basic independent variables involved if our predictor variables and performance are correlates, but not causally related. The exact identification of these underlying correlates and the methods of measurement must necessarily be the subject of further research beyond the scope of this study.

There is yet another practical value of our findings, even if we merely assume non-causal relationships between variables. Without necessarily seeking to link up our predictors to the ultimate determinants of performance, we can still use our information to help locate those counties most likely to be in need of special programs for improving educational performance. These are the counties low on median education and per pupil expenditures and high on population per household and percentage in agriculture. Without more precise information on specific county needs, it would seem advisable to apply to these counties of expected low performance whatever knowledge and resources are available for remedial measures to improve educational performance.

As it turns out, some of these counties are exceptions to the general rule in that their levels of performance are not low. While special help could be withheld from such exceptional counties, we might find them particularly useful loci for intensive research into the possible factors that can compensate for those disadvantages normally associated with this type of county. What additional characteristics of a county can cause it to have relatively high performance levels even when its ratings on our best predictor variables would indicate the likelihood of poor performance? Perhaps we can find some "natural phenomena" or at least some successful local measures in these counties that can supersede externally-imposed programs to remedy performance deficiencies.

This just-mentioned application of our findings suggests that there is another group of exceptional counties -- those incorrectly predicted to have high performance levels -- which also constitute a fertile area for research. Here we would seek to identify possible impediments of those factors that usually contribute to high academic performance. If we can name these dangers to realization of educational potential, we are certainly on the way towards maximizing the performance level of all communities; for, this gives the knowledge of what pitfalls must be avoided even when major factors predict high performance.

To summarize the practical applications of our findings, it is suggested that we can take off in two directions. We do not really have enough information to conclude whether or not the best predictors are determinants or correlates (without causal inference) of educational performance. As a result, it is recommended that:

1) efforts be made to improve counties' standings on the top predictor variables -- to raise performance if the discovered relationships are causal (with other valued side-effects making the efforts worthwhile in any case); and
2) the data be used as a basis of further research to locate those counties most likely to have low educational performance (so that special efforts can be made to help them) and to identify factors that may moderate the influences of key predictors or their antecedents.

Other Implications

For the non-applied social scientist, there are other implications to be drawn from our findings. As was pointed out in Chapter I, much use of demographic or ecological data has been made in previous research. This study is hardly new in its basic approach. But we would hope that it might provide a few new perspectives for the social scientist.

If nothing else, we have at least presented a new field for which the method of demographic analysis appears to have application. The ecological distribution of education performance and its correlates has not been studied before in the detail that we have studied it. This should suggest the promise of further rewarding research not only to the applied educational sociologist, but also to those interested in more theoretical questions. For example, using areal units as elements in the social system, one can examine the question of which kinds of elements perform the very important function of socialization most satisfactorily. In essence, educational performance is an index of success in socialization; the function of preparing new members for full participation in the social system and the determinants of the success of such preparation are items of major concern to the global theoretician. The potential of the demographic approach for contributing answers to such questions seems to have been overlooked until now. Our demonstration that relevant demographic data are available and do yield significant results suggests the utility of this approach.

A related, more general, methodological point is the recognition in our research of the availability of large bodies of non-Census data that can be used in demographic analysis. Many persons have avoided this type of research because it seemed that statistics available for geographic units were pretty much limited to what the Census Bureau collects -- mainly socio-economic and pure population statistics. Of course, the "Chicago School" has for years made use of much non-Census ecological data.[6] But except for occasional use of single dependent variables -- e.g., voting results, lynching rates, or date of desegregation -- it appears that the use of non-Census materials has been quite neglected in this kind of analysis beyond the selected large urban setting. This study has used a large quantity of data obtained from state and local departments of education, as well as statistics on voting and racial violence. The fair success we have had indicates the value of further investigation into what statistical resources are lying fallow in the files and unread publications of federal, state, and local agencies -- data that could help to tell us more about the distribution of various social phenomena throughout the society. One precaution that we have learned: the exact methods of measurement may vary for each data-collecting agency. Thus, when one deals with materials gathered by agencies of 11 different states, one must be prepared to make special efforts to standardize the data.[7] Otherwise, the comparison and combination of data across political boundary lines is imposible. Without this, the benefits of the demographic analysis approach are sharply limited.

To those who are already experienced in the use of demographic materials, we offer two further general observations from our research.

First, we wish to note the changing fortunes of particular measures as predictor variables. Two variables that have previously received special attention for their success in predicting social phenomena are percentage urban and percentage Negro. Urbanization is strongly associated with one measure of performance, the absolute college entrance rates of both Negroes and whites. Percentage Negro is among the top half-dozen or so of the various predictors of performance, especially of relative Negro performance. But neither is the outstanding predictor that we might have been led to expect, on the basis of both general theory and previous findings. In fact, percentage urban is quite inconsistent in its ability to account for variations in some measures of performance. And the correlations of percentage Negro with performance measures can usually be reduced to around zero by the introduction of just a few control variables. Apparently in the field of education at least, urbanism and race ratio are not important predictors. There are too many kinds of urban areas and too many reasons for a high or low percentage Negro for these variables to have much meaning in themselves. Perhaps in the future, we would do better to look at more precise descriptive characteristics of an area to find the most powerful correlates of a particular ecologically-distributed phenomenon under study. The greater success that we have had with such variables as median education and per pupil expenditure strongly suggests this.

Second, we need to reaffirm, in closing, the great limitations inherent in the demographic analysis approach to sociological research. As noted in Chapter I, W. S. Robinson has already apprised us of the dangers in jumping to conclusions about the nature of causal relationships on the basis of ecologically-based correlations. But even if we assume that demographic correlations are accurate indicators of causal relationships at the individual level (e.g., assume that the level of a parent's education influences how well the child does in school) we are still remiss if we expect that the relationship totally explains the process of causation. Between the independent and dependent variables related at the ecological area are intervening factors, social-psychological or interactional in nature. An examination of these factors (to see, for example, how the better-educated parent motivates his child to do well in school) is necessary to complete the picture of determinants of educational performance.[8]

If we had any doubts that other factors must be explored, these would be dispelled anyway by the fact that our demographic analysis has "explained" only a portion of the variance in educational performance -- at best, less than a third of the variance. Inasmuch as we attempted to use a very wide range of potentially key independent variables, it is doubtful that this kind of analysis can generate much greater "explanatory" power than we have obtained. Thus, we must conclude that the ecological approach is valuable for prediction purposes and to indicate possibly important relationships, but the full analysis of social phenomena requires research beyond the confines of this kind of approach.

Chapter VI, Footnotes

1. It should be noted that a few other variables could interchange with the ones listed here to give almost as much predictive power. But the ones listed have emerged as the top predictors.

2. Agricultural employment is a measure of the total population. The other three independent variables measure the condition of whites alone or Negroes alone or relative to whites, corresponding to the type of dependent measure being used.

3. Assuming the causal relationship between expenditures and performance.

4. Moreover, they could well have a cumulative, or even multiplicative, effect on performance by acting as catalysts or depressants on each other and on expenditure. Changes in one variable might not only affect performance but also the other independent variables in such a way as to increase the latters' effects on performance as well.

5. Especially the lower class and rural Negroes and whites most likely to have large families.

6. For example, studies on distribution of drug addiction, alcoholism, crime, and delinquency.

7. As we have done often through rather unorthodox statistical operations.

8. This, incidentally is the subject of the second phase of our research: questionnaire study of some 16,000 Southern high school students to find out what directly affects the level of their educational aspirations and performance. Volume II of this report concerns findings from this phase of the project.

CHAPTER VII

FINAL SUMMARY

In this report, we have examined demographic correlates of educational performance levels by county in the eleven ex-Confederate Southern states. We have been concerned with finding out whether the same variables predict performance for both races in the same way.

Data have been derived mainly from U. S. Census reports for 1960 and from materials obtained from state and local departments of education for approximately the same date. Four kinds of measures of performance were used: (1) school attendance rates, (2) age-grade retardation rates, (3) dropout rates, and (4) college entrance rates. A wide range of possible predictor variables was examined. They fall under four general headings: (1) pure demographic variables, (2) socio-economic variables, (3) indices of county concern over education, and (4) indices of the state of race relations in the county.

Since many of the variables studied were not measured the same way in every state and since it was felt that conditions affecting performance might differ from state to state, it was decided to do the first stage of correlational analysis for each state separately. To summarize results for the entire region, we have had to invent our own methods which we defend mainly on the basis of expediency and their probable utility in making tentative conclusions.

Generally, the best predictors of the level of absolute Negro and white performance have been intra-race median adult education, per pupil expenditure, and population per household. The first two variables are positively associated with performance, while household size is a negative correlate. Both median education and expenditures also rank high as predictors of the relative performance of Negroes (as a percentage of the white performance level). The racial difference is smallest where median education and expenditures are highest.[1] Percentage in agriculture is also a high-ranking correlate of relative Negro performance; Negroes do relatively better where agricultural employment is lower.

Percentage Negro is one of the better predictors, especially of relative performance. It is positively associated with white performance rates and negatively related to Negro rates. However, when controls are introduced, just about all the predictive power of percentage Negro is explained away.

Other variables that are disappointing as predictors are percentage urban and population change,[2] median income,[3] and frequency of racial violence (which was expected to predict the relative performance of Negroes).

Practical application of these findings depends on whether or not causality is assumed. If it is, the recommendations would be to work at raising school expenditures and the level of education among adults and to encourage programs for limiting family size and for moving people out of agricultural employment. Such recommendations appear to have merit beyond the concern for improving education.

Without the assumption of causality, we cannot claim to have identified actual determinants of educational performance, but the results can still have value in pointing out the kinds of communities most likely to require special attention by educators. In addition, it enables the practitioner to focus his interest on those places which display higher performance levels than predicted. These counties may provide important clues as to what can be done to compensate for environmental conditions generally not conducive to high performance.

The findings also have some worth for the non-applied social scientist. Hopefully, we have demonstrated a broadened potential for the utility of the demographic or ecological approach in studying questions of theoretical importance. At the same time, the limitations of this method -- its inherent inability to explain the total process of causation -- have been reaffirmed.

As an isolated piece of research, this study must stand on its success in predicting the rates of educational performance at the county level, and on the utility of these predictions. But we see somewhat greater significance in the study's relationship to other demographic research and in the stage it sets for further investigation, at the level of the individual, in the area of educational aspirations and performance.

Chapter VII, Footnotes

1. Household size was inadvertently not studied for its relationship to relative Negro performance.

2. Both achieve their most noteworthy successes in predicting some indices of white performance, but the predictions are not consistent with one another. Here attendance and non-dropout rates are negatively related to the urbanization and population growth variables, while non-retardation and college entrance rates are positively related to both variables.

3. Also very erratic in the directions of its relationships with particular measures of performance; it is one of the better predictors of relative performance, however, though not nearly so good as median education.

APPENDIX A

ADDITIONAL PROBLEMS WITH SCHOOL DATA

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In the text, we have generally covered rather mechanical, usually inadvertent variations in the form of specific types of data. We are aware of some other problems which are not so innocently created. These are the problems of actual misrepresentations in the data. Our impression is that this occurs only rarely, but detection is not always possible, nor is correction possible even where the error is discovered.

Some types of misrepresentation which we know or strongly suspect include the following:

1) Inflation of average daily attendance figures, because state allotments of funds to local districts are usually on the basis of this figure. The larger the ADA, the greater the state appropriation. We are informed by state officials that this distortion is now at a minimum because of fairly rigorous checks into reports on ADA. Some officials do admit, however, that the problem has not been completely eliminated.

2) Underenumeration of retardates, particularly in those places where we were forced to collect the data ourselves. (We are unable to make as clear a judgment of data collected by the states.) In a few places -- no more than a half-dozen localities out of over 200 in the three states involved -- the number of "retarded" pupils was virtually zero. In perhaps 5% of the remaining school systems, retardation seems unusually rare. While such figures might be produced by an

especially bright body of students or by a policy of social promotion,[1] two other explanations involving misrepresentation may have more validity. First, they may reflect an attempt to put the system's pupils in the best possible light in comparison with children in other localities. And second, no recorded retardation may be the result of school officials' not taking the trouble to make accurate age-grade distribution tables; instead, they merely estimated ages from the number in particular grades and assumed no variation. An attempt was made, through correspondence with school officials, to learn the correct explanation for these low retardation rates. But response to our questions (asked with the greatest possible tact) did not lead to total clarification of the situation.

3) Inflation of the totals of high school graduates going on to college. In only one state, Georgia, did we have a complete list of the names of schools where pupils went for post-graduate study, as reported by principals. This list is revealing and suggests that in other states, too, persons entering mortuary, cosmetology, barbering, and other business and trade schools may often be in the count of those going on to college. Matriculation in such schools accounts for about 3% of recorded post-high school education in Georgia. This percentage seems somewhat higher for Negro schools than for white schools and also higher for small systems than for larger systems.

Another set of school data problems still remains to be discussed. These have to do with matters which tend to interfere with the validity of all data in certain counties. We have in mind three main difficulties: (1) the lack of a racial breakdown on statistics for integrated schools; (2) the enrollment of pupils in non-public schools; and (3) the passage of children across county lines to attend school.

1) Integrated Schools. -- The general practice of school systems is to consider all data for an integrated school as applying to that race which is in the majority in the school. Thus, where there are one or two Negroes in an enrollment of 500, the Negroes are considered "white" for statistical purposes. Since this is a rather typical race ratio in integrated schools in Southern states (as of 1960), it would seem that the deviation from exact statistics for each race is very slight. It should be noted that only a handful of counties in the eleven states of our research have anything approaching full-scale integration. As it turns out, the only completely integrated school systems[2] in the region are a few in Arkansas and Texas where the proportion of Negroes in the population is so small that the counties cannot even be included in our analysis by race -- that is, they have fewer than 1,000 Negroes in the population.

2) Non-Public Schools. -- In one state, Louisiana, some of the types of school information are also provided for private and parochial school pupils. This is fortunate, since

Louisiana, with its large Catholic population, has by far the largest proportion of non-public school attenders in the region. There are, however, scattered areas in the other states that also have relatively large private and parochial school enrollments. In these counties -- usually highly urbanized -- we know only the relative size of the non-public school population, but nothing about attendance, retardation, etc. Private school pupils may or may not resemble their public school counterparts in these respects. All we are able to do is to make note of the proportion attending non-public schools in each county.[3] We can then use this information at least to qualify any conclusions we might draw from the data we have for children in counties where many are in private and parochial schools.

3) Crossing County Lines. -- It may well be true that most of the counties in our survey receive some pupils from adjacent counties. Rural persons near the border may elect to send their children to school in neighboring communities in the next county. But the effect is probably negligible except where it is official policy to transport a body of pupils across the boundary. This occurs primarily where a locality does not provide facilities for all grades or where a jointly sponsored consolidated school serves pupils from more than one county. The problem is most prevalent where the number of pupils in a place is not enough for efficient maintenance of an adequate high school or of any schools at

all. This affects sparse Negro populations most often. As with the problem of integrated school data, our concern is lessened here because our sample does not include most of the counties with Negro populations small enough to necessitate inter-county movement. But there still remain a few counties in each of five states -- Arkansas, North Carolina, Tennessee, Texas, and Virginia -- where the data are confounded by this phenomenon. In these cases, information from both the sending and receiving counties becomes potentially unrepresentative of the counties involved.

A special related problem exists with Virginia data because of its politically independent cities. In many of the states, cities have separate school systems which, in some cases, send into or receive from the county relatively large numbers of pupils. But since the entire county is our unit of analysis,we have generally averted any difficulty by just combining city and county data. In Virginia, however, the cities have complete autonomy.[4] And it is not always obvious geographically in just what county a city belongs. This has forced us to make a few rather arbitrary decisions in joining cities to counties in Virginia. This has happened with no more than about six of the state's 98 counties. But these six are cases where the likelihood would seem to be greatest that cross-boundary exchange of pupils involves the city with a county other than the county to which the city has been assigned.

Even with all the data problems cited here and in the text, we are confident in the overall value of the school statistics used in this study. The difficulties which we have described will generally have little effect on such correlations so long as we follow our plan to compute a separate set of correlations for each state. Data for counties within the same state are comparable except in isolated cases -- so isolated that correlations based on these data should have high validity.

Appendix A, Footnotes

1. This is where pupils are moved along with their age cohort, regardless of their degree of academic achievement. Such an explanation represents a challenge to the usefulness of "retardation" as a measure of real achievement, but it does not reflect on the reporting of local officials.

2. By this, we mean systems where there are pupils of both races, but no separate schools maintained for Negroes.

3. This information is obtained from the 1960 Census reports for each state, Chapter C on General Social and Economic Characteristics of the population.

4. Even the Census does not combine these cities with counties as is its custom in providing county data in other states. This means that occasionally in Virginia we come across a county or city with less than 1,000 non-whites (and no racial breakdown of data), even though there would be 1,000 non-whites if the city and county were combined.

APPENDIX B

TABLES

TABLE 1

Percentage of Pupils in Average Daily Attendance:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	808	810	61	61	42	42	61	61	140	140	63	63
Mean	86.2	89.8	89.0	90.9	87.5	89.5	87.0	83.9	77.6	85.1	88.8	91.7
Standard Deviation	4.7	2.3	3.4	2.1	5.3	3.3	3.2	2.9	6.9	2.9	4.8	1.9
Frequency Distribution												
Less than 76%	72	2	0	0	1	0	0	2	56	0	1	0
76 - 78%	48	1	1	0	1	0	1	0	32	1	1	0
79 - 81%	60	29	1	0	6	1	4	10	11	17	4	0
82 - 84%	111	86	4	0	5	3	10	23	18	51	6	0
85 - 87%	143	123	10	5	7	9	19	25	12	53	15	3
88 - 90%	166	188	28	27	8	11	21	1	10	15	13	17
91 - 93%	129	251	15	24	13	15	6	0	1	2	15	35
94 - 96%	64	125	2	5	1	3	0	0	0	0	6	8
97% or over	15	5	0	0	0	0	0	0	0	1	2	0

Table 1 (Continued)

Percentage of Pupils in Average Daily Attendance:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	79	79	84	84	46	46	48	48	107	107	77	79
Mean	82.2	91.2	89.3	92.0	84.5	89.4	95.3	95.2	86.1	89.9	92.2	94.2
Standard Deviation	6.3	2.6	3.7	1.5	2.9	1.8	2.5	1.1	4.1	2.7	2.7	.860
Frequency Distribution												
Less than 76%	12	0	0	0	0	0	0	0	2	0	0	0
76 - 78%	7	0	0	0	2	0	0	0	3	0	0	0
79 - 81%	14	1	2	0	7	0	0	0	11	0	0	0
82 - 84%	18	2	12	0	15	1	0	0	22	6	1	0
85 - 87%	13	4	12	2	17	7	1	0	32	15	5	0
88 - 90%	12	25	25	14	5	30	2	0	28	48	14	0
91 - 93%	3	39	27	64	0	8	6	3	8	32	35	29
94 - 96%	0	8	5	4	0	0	28	42	0	5	22	50
97% and over	0	0	1	0	0	0	11	3	1	1	0	0

Source: Published and unpublished reports of the state departments of education.

How Computed: $$\frac{\text{Average number of pupils attending classes per day in 1959-60 school year}}{\text{Total enrollment in 1959-60 school year (Average daily enrollment used in Virginia)}}$$

TABLE 2

Ratio of Negro Attendance Rate Divided by White Attendance Rate: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	808	61	42	61	140	63	79	84	46	48	107	77
Mean	.959	.979	.977	1.038	.913	.968	.902	.971	.946	1.001	.958	.979
Standard Deviation	.058	.038	.042	.046	.095	.052	.071	.041	.037	.022	.050	.029
Frequency Distribution												
Less than .80	24	0	0	0	16	1	7	0	0	0	0	0
.80 - .84	34	0	0	0	22	1	9	0	0	0	2	0
.85 - .89	72	4	1	1	23	4	19	6	5	0	8	1
.90 - .94	161	8	10	1	31	8	27	14	20	2	31	9
.95 - .99	292	29	21	8	20	35	11	41	18	17	45	47
1.00 - 1.04	179	20	8	27	16	11	4	23	3	29	18	20
1.05 - 1.09	39	0	2	21	9	3	2	0	0	0	2	0
1.10 and over	7	0	0	3	3	0	0	0	0	0	1	0

Source: Published and unpublished reports of the state departments of education.

How Computed:

$$\frac{\text{Average daily attendance of Negro pupils, 1959-60}}{\text{Total enrollment of Negro pupils, 1959-60}} \Bigg/ \frac{\text{Average daily attendance of white pupils, 1959-60}}{\text{Total enrollment of white pupils, 1959-60}}$$

Same exceptions apply as in Table 1.

TABLE 3

Percentage of High School Graduates Entering College: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	710	720	41	43	29	30	50	50	139	140	63	63
Mean	28.6	39.5	23.4	36.2	29.6	40.6	32.2	37.4	19.2	35.7	35.2	41.9
Standard Deviation	10.3	10.2	10.4	12.5	8.5	8.8	9.4	9.9	10.0	10.6	11.5	11.9
Frequency Distribution												
Less than 10%	35	1	2	0	1	0	0	0	18	1	0	0
10 - 19%	179	24	14	2	1	0	4	1	66	6	4	2
20 - 29%	206	134	16	16	12	4	17	12	41	33	21	6
30 - 39%	153	249	7	10	13	9	18	15	10	57	20	26
40 - 49%	77	171	1	10	1	12	10	18	1	30	9	13
50 - 59%	44	96	1	3	1	5	1	4	2	9	7	9
60% and over	16	45	0	2	0	0	0	0	1	4	2	7

Table 3 (Continued)

Percentage of High School Graduates Entering College: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	79	79	84	84	46	46			106	107	73	78
Mean	35.8	47.6	25.5	33.9	15.6	33.2	No data		44.2	50.8	22.7	33.5
Standard Deviation	10.9	10.5	9.4	6.8	5.4	6.6			12.2	10.3	10.3	11.6
Frequency Distribution												
Less than 10%	0	0	3	0	5	0	NO DATA		0	0	6	0
10 - 19%	4	0	22	2	36	2			2	0	26	9
20 - 29%	21	2	35	22	5	12			13	1	25	26
30 - 39%	32	19	18	47	0	26			22	14	13	26
40 - 49%	14	28	5	11	0	5			34	33	2	11
50 - 59%	6	19	1	2	0	1			25	41	0	3
60% and over	2	11	0	0	0	0			10	18	1	3

Source: Published and unpublished reports of the state departments of education.

How Computed: $\frac{\text{Number of high school graduates entering college, 1958-60}}{\text{Total number of high school graduates, 1958-60}}$

For Georgia, Texas, Alabama, Arkansas, and Florida, the three-year period 1959-61 is used. Texas data are based on intention to go to college, rather than actual attendance.

Georgia data are based on 12th grade enrollment, rather than number of graduates.

TABLE 4

Ratio of Negro College Entrance Rate Divided by White College Entrance Rate: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	708	41	29	49	139	63	79	84	46	No	106	72
Mean	.742	.717	.760	.900	.568	.896	.781	.758	.486	data	.899	.717
Standard Deviation	.316	.414	.317	.282	.351	.362	.279	.254	.174		.293	.363
Frequency Distribution												
Less than .40	80	6	1	0	42	1	4	4	12		1	9
.40 - .49	98	13	3	2	26	8	8	7	15	N	6	10
.50 - .59	93	4	4	6	18	7	10	13	11	O	6	14
.60 - .69	89	2	7	5	22	6	12	11	3	D A	13	8
.70 - .79	91	3	6	7	11	5	11	19	1	T A	19	9
.80 - .89	56	1	2	5	2	5	13	5	3		14	6
.90 - .99	55	2	1	9	4	7	4	11	1		13	3
1.00 - 1.09	56	1	3	3	8	9	9	6	0		11	6
1.10 and over	90	9	2	12	6	15	8	8	0		23	7

Source: Published and unpublished reports of the state departments of education.

How Computed: $$\frac{\text{Number of Negro high school graduates entering college, 1958-60}}{\text{Total number of Negro high school graduates, 1958-60}} \Big/ \frac{\text{Number of white high school graduates entering college, 1958-60}}{\text{Total no. of white h. s. grads, 1958-60}}$$

Same exceptions apply as in Table 38.

TABLE 5

Percentage of Pupils Who Are Age-Grade Retarded: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	690	691	42	42	27	28	48	48	140	140	62	62
Mean	21.6	11.2	18.0	7.2	13.8	5.1	11.5	5.3	39.0	20.1	27.5	19.6
Standard Deviation	8.0	3.9	5.5	2.4	8.9	2.4	5.4	1.7	8.9	4.5	12.7	7.0
Frequency Distribution												
40% or more	77	0	0	0	0	0	0	0	63	0	12	0
35 - 39%	43	0	0	0	0	0	0	0	31	0	7	0
30 - 34%	47	8	0	0	2	0	1	0	25	5	8	3
25 - 29%	55	22	3	0	3	0	0	0	14	11	9	11
20 - 24%	94	71	15	0	1	0	1	0	5	56	8	14
15 - 19%	121	85	13	0	2	0	11	0	1	51	5	18
10 - 14%	129	121	7	5	7	1	12	0	0	15	9	10
5 - 9%	106	258	3	27	10	9	22	27	1	2	2	5
0 - 4%	18	126	1	10	2	18	1	21	0	0	2	1

Table 5 (continued)

Percentage of Pupils Who Are Age-Grade Retarded:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	53	53	84	84			48	48	107	107	79	79
Mean	13.6	6.8	16.5	9.7	No data		7.7	6.5	18.5	6.7	20.4	10.5
Standard Deviation	5.7	1.7	5.4	2.2			3.0	1.9	9.2	4.1	7.6	4.4
Frequency Distribution												
40% or more	0	0	0	0			0	0	1	0	1	0
35 - 39%	1	0	0	0	NO DATA		0	0	3	0	1	0
30 - 34%	0	0	0	0			0	0	3	0	8	0
25 - 29%	0	0	5	0			0	0	10	0	11	0
20 - 24%	5	0	18	0			0	0	23	0	18	1
15 - 19%	13	0	28	1			1	0	28	7	19	8
10 - 14%	19	2	24	35			9	2	26	17	16	34
5 - 9%	15	45	9	47			28	35	12	35	4	26
0 - 4%	0	6	0	1			10	11	1	48	1	10

Source: Published and unpublished reports of the state departments of education.

How Computed: $\frac{\text{Number whose ages are 7 or more years greater than their grades}}{\text{Total Enrollment}}$

In Miss. and Tenn., % of pupils promoted is used instead of % up to age cohort in school. The Tenn. Figures are based on a three-year average, 1958-60.

In Georgia, a 5 year difference was used instead of 6. In Louisiana, 1954-55 is the year used; in Texas 1955-56; in North Carolina and Va., 1959-60; in Ala., Ark., and Fla., 1961-62; in Miss. & Ga. 1960-61.

TABLE 6

Ratio of Negro Age-Grade Retardation Divided by White Age-Grade Retardation: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	689	42	27	47	140	62	53	84	No	48	107	79
Mean	2.272	2.755	2.799	2.382	2.034	1.435	2.061	1.796	data	1.296	3.598	2.291
Standard Deviation	1.205	1.180	1.204	1.302	.693	.533	.753	.720		.661	2.153	1.367
Frequency Distribution												
5.0 and over	35	1	1	4	1	0	0	0	N O	0	24	4
4.0 - 4.9	26	7	3	1	1	0	0	1	D	0	13	0
3.0 - 3.9	73	5	7	8	10	0	6	4	A T	2	19	12
2.0 - 2.9	184	15	9	9	46	9	19	19	A	6	28	24
1.0 - 1.9	307	13	6	24	80	39	25	53		23	12	32
Below 1.0	64	1	1	1	2	14	3	7		17	11	7

Source: Published and unpublished reports of the state departments of education.

How Computed:

$$\frac{\text{Number of Negroes 6 or fewer years older than their grade}}{\text{Total Negro enrollment}} \Bigg/ \frac{\text{Number of whites 6 or fewer years older than their grade}}{\text{Total white enrollment}}$$

Same exceptions apply as in Table 5.

TABLE 7

Ratio of 12th to 5th Grade Enrollments (Retention Rate):
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	803	809	61	61	41	42	60	60	140	140	63	63
Mean	.348	.495	.367	.493	.396	.578	.336	.416	.270	.478	.349	.518
Standard Deviation	.109	.105	.074	.092	.148	.113	.091	.080	.079	.107	.122	.132
Frequency Distribution												
Less than .20	67	0	0	0	1	0	2	0	28	0	5	0
.20 - .29	229	16	11	0	11	0	17	6	60	2	17	2
.30 - .39	278	134	30	3	13	4	29	17	43	32	22	7
.40 - .49	142	318	16	37	8	6	8	25	8	54	14	21
.50 - .59	51	199	4	12	4	15	4	11	1	34	1	20
.60 - .69	23	103	0	6	3	11	0	1	0	15	4	8
.70 - .79	8	28	0	3	0	6	0	0	0	2	0	2
.80 and over	5	11	0	0	1	0	0	0	0	1	0	1

Table 7 (Continued)

Ratio of 12th to 5th Grade Enrollments (Retention Rate): MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	79	79	84	84	46	46	47	48	107	107	75	79
Mean	.261	.553	.383	.472	.308	.446	.455	.467	.446	.570	.335	.435
Standard Deviation	.086	.103	.095	.068	.067	.078	.157	.102	.143	.140	.122	.090
Frequency Distribution												
Less than .20	20	0	2	0	1	0	2	0	2	0	4	0
.20 - .29	32	0	12	0	24	0	6	2	13	1	26	3
.30 - .39	24	3	35	12	17	15	9	6	22	10	34	25
.40 - .49	2	22	26	44	4	20	14	28	36	23	6	38
.50 - .59	1	30	5	23	0	8	8	7	22	31	1	8
.60 - .69	0	18	4	5	0	3	5	4	5	28	2	4
.70 - .79	0	5	0	0	0	0	3	1	4	8	1	1
.80 and over	0	1	0	0	0	0	0	0	3	6	1	0

Source: Published and unpublished reports of the state departments of education.

How Computed: $\frac{\text{Number enrolled in 12th grade in 1957-58, 1958-59, and 1959-60}}{\text{Number enrolled in 5th grade in 1957-58, 1958-59, and 1959-60}}$

In Georgia and Texas, 1960-61 is used instead of 1958-59. In Louisiana, 1960-61 is used instead of 1957-58.

TABLE 3

Ratio of Negro Retention Rate Divided by White Retention Rate: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	803	61	41	60	140	63	79	84	46	47	107	75
Mean	.731	.762	.675	.837	.603	.690	.483	.831	.715	1.020	.801	.803
Standard Deviation	.257	.193	.179	.278	.255	.223	.178	.254	.216	.409	.241	.336
Frequency Distribution												
Less than .25	10	0	0	0	3	0	5	0	0	0	2	0
.25 - .39	59	0	0	0	24	4	23	1	3	0	0	4
.40 - .54	140	4	13	8	33	12	25	6	8	6	12	13
.55 - .69	194	24	10	10	42	19	19	16	14	2	21	17
.70 - .84	176	18	13	19	21	16	4	28	9	8	25	15
.85 - .99	113	8	2	9	12	6	2	14	7	11	30	12
1.00 - 1.14	50	3	2	4	3	3	1	9	2	7	11	5
1.15 - 1.29	28	3	1	7	0	3	0	3	2	4	3	2
1.30 and over	33	1	0	3	2	0	0	7	1	9	3	7

Source: Published and unpublished reports of the state departments of education.

How Computed: $$\frac{\text{Negro 12th grade enrollment, 1957-58, 1958-59 and 1959-60}}{\text{Negro 5th grade enrollment, 1957-58, 1958-59 and 1959-60}} \Big/ \frac{\text{White 12th grade enrollment, 1957-58, 1958-59, and 1959-60}}{\text{White 5th grade enrollment, 1957-58 1958-59, and 1959-60}}$$

Same exceptions apply as in Table 7.

TABLE [illegible]

Ratio of High School Enrollment Divided by Number of Age-Eligible Youths (High School Enrollment Rate):
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	812	812	61	61	42	42	61	61	140	140	63	63
Mean	.693	.826	.700	.861	.714	.879	.788	.849	.624	.859	.731	.874
Standard Deviation	.154	.113	.109	.092	.155	.114	.206	.122	.164	.137	.163	.117
Frequency Distribution												
Less than .50	90	6	2	0	4	0	5	1	34	0	3	0
.50 - .59	135	16	6	0	8	1	5	0	29	0	14	1
.60 - .69	186	86	27	0	7	3	7	6	32	15	5	3
.70 - .79	214	231	15	21	13	5	17	13	26	33	21	10
.80 - .89	116	281	9	23	6	11	13	21	15	50	14	27
.90 - .99	39	125	1	10	1	16	5	12	3	27	3	14
1.00 and over	32	67	1	7	3	6	9	8	1	15	3	8

Table 9 (Continued)

Ratio of High School Enrollment Divided by Number of Age-Eligible Youths (High School Enrollment Rate):

MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	80	80	84	84	46	46	48	48	107	107	80	80
Mean	.649	.897	.692	.790	.594	.739	.784	.751	.748	.797	.666	.761
Standard Deviation	.148	.108	.117	.067	.091	.109	.186	.085	.161	.101	.154	.141
Frequency Distribution												
Less than .50	15	0	3	0	6	1	2	1	6	0	10	3
.50 - .59	13	1	15	1	16	1	4	1	11	5	14	5
.60 - .69	17	2	23	6	20	13	13	8	13	12	22	18
.70 - .79	22	6	31	40	4	21	7	24	35	31	23	27
.80 - .89	10	37	6	34	0	7	7	14	29	42	7	15
.90 - .99	3	19	3	3	0	2	8	0	9	16	3	6
1.00 and over	0	15	3	0	0	1	7	0	4	1	1	6

Source: United States Bureau of Census, U. S. Census of Population: 1960.

How Computed: $\frac{\text{Number enrolled, grades 9 - 12}}{\text{Total population, ages 14 - 17}}$

TABLE 10

Ratio of Negro High School Enrollment Rate Divided by White High School Enrollment Rate: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	.854	.818	.814	.944	.741	.843	.728	.881	.823	1.078	.946	.902
Standard Deviation	.216	.137	.154	.273	.210	.186	.169	.169	.197	.368	.210	.257
Frequency Distribution												
Less than .50	32	1	1	1	15	2	7	0	1	0	3	1
.50 - .59	56	1	0	4	20	3	9	1	5	1	4	8
.60 - .69	104	8	11	6	26	9	21	10	3	0	1	9
.70 - .79	145	18	8	4	29	12	19	18	11	5	10	11
.80 - .89	166	18	8	14	23	16	9	17	12	12	24	13
.90 - .99	144	12	9	12	10	12	10	24	7	7	28	13
1.00 - 1.09	75	1	5	8	12	3	4	8	5	5	16	8
1.10 - 1.19	34	1	0	1	2	3	1	2	1	6	9	8
1.20 and over	56	1	0	11	3	3	0	4	1	12	12	9

Source: United States Bureau of Census, U. S. Census of Population: 1960.

How Computed: $\dfrac{\text{Number of non-white enrolled, grades 9-12}}{\text{Total non-white population, ages 14-17}} \Big/ \dfrac{\text{Number of whites enrolled, grades 9-12}}{\text{Total white population, ages 14-17}}$

TABLE 11

Ratio of Negro Census Retention Rate Divided by White Census Retention Rate: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	.753	.716	.671	.815	.639	.738	.576	.794	.756	.943	.854	.867
Standard Deviation	.220	.144	.142	.309	.204	.154	.151	.200	.168	.340	.239	.268
Frequency Distribution												
Less than .50	98	3	2	6	36	3	27	4	4	2	7	4
.50 - .59	106	7	14	6	24	9	20	8	5	0	4	9
.60 - .69	151	20	9	7	31	12	18	16	6	8	14	10
.70 - .79	162	14	10	15	24	16	9	17	9	11	20	17
.80 - .89	123	11	4	8	12	12	4	17	13	6	24	12
.90 - .99	72	4	3	8	5	8	1	12	6	5	14	6
1.00 - 1.09	47	1	0	6	4	3	1	8	3	3	13	5
1.10 and over	53	1	0	5	4	0	0	2	0	13	11	17

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: $\dfrac{\text{Non-white enrollment, grades 9-12}}{\text{Non-white enrollment, grades 1-8}} \bigg/ \dfrac{\text{White enrollment, grades 9-12}}{\text{White enrollment, grades 1-8}}$

TABLE 12

Number of Inhabitants in County :
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean of Counties (in 1000's)	48.7	50.4	32.0	81.4	26.8	53.2	28.1	51.5	51.9	61.5	70.4	44.8
Standard Deviation (in 1000's)	92.5	89.0	37.6	152.5	56.7	88.1	27.7	48.6	50.2	108.5	156.7	77.3
Frequency Distribution												
Below 10,000	109	0	3	12	48	2	7	6	1	0	11	19
10,000-19,999	228	18	12	16	51	21	34	10	8	8	27	23
20,000-29,999	157	15	13	4	15	12	18	20	8	18	24	10
30,000-49,999	147	14	9	8	16	12	12	17	16	11	21	11
50,000-99,999	98	9	4	10	3	8	6	23	9	6	10	10
100,000 and over	73	5	1	11	7	8	3	8	4	5	14	7

Source: United States Bureau of Census, U. S. Census of Population; 1960.

TABLE 13

Percentage of Population Living in Urban Areas :
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn	Texas	Va.
Number of counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	32.6	32.9	35.5	43.3	29.1	35.1	23.0	25.7	29.0	36.5	47.5	23.6
Standard Deviation	24.7	23.5	19.5	26.4	25.9	24.3	22.9	22.0	17.8	21.4	28.1	29.1
Frequency Distribution												
0%	194	9	5	10	48	11	29	23	4	4	13	38
1 - 15%	37	5	1	1	1	3	5	7	6	3	0	5
16 - 30%	161	19	10	7	20	12	19	22	14	14	14	10
31 - 45%	193	8	16	12	38	18	17	17	16	14	28	9
46 - 60%	104	12	7	13	14	10	2	7	3	6	20	10
61 - 75%	63	5	1	11	10	5	6	6	3	4	11	1
76% and over	60	3	2	7	9	4	2	2	0	3	21	7

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: Number living in places of 2,500 or over or in Census-defined "urbanized areas"
Total County Population

TABLE 14

Percentage Population Change, 1950-1960: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total			Alabama			Arkansas			Florida		
	All	Negro	White	All	Negro	White	All	Negro	White	All	Negro	White
Number of Counties	812	812	812	61	61	61	42	42	42	61	61	61
Mean	8.7	3.4	11.9	-1.5	-5.6	1.4	-9.9	-9.8	-8.6	59.2	32.7	68.6
Standard Deviation	29.0	22.5	34.3	16.6	12.0	18.7	11.2	12.3	13.4	68.7	35.8	81.7
Frequency Distribution												
Over 20% decrease	31	53	31	1	5	0	8	6	5	1	1	2
10.1 - 20% decrease	158	158	147	21	18	20	15	17	17	2	3	0
0.1 - 10% decrease	190	215	182	14	18	15	13	12	11	4	4	4
0 - 9.9% increase	166	168	162	11	12	7	4	4	5	6	9	7
10 - 19.9% increase	95	96	93	7	6	9	0	2	0	4	8	2
20 - 29.9% increase	54	44	60	4	1	6	2	0	4	4	9	4
30 - 39.9% increase	36	30	34	1	1	2	0	0	0	9	6	7
40 - 49.9% increase	20	15	25	1	0	0	0	1	0	1	4	3
50% and over increase	62	33	78	1	0	2	0	0	0	30	17	32

Table 14 (Continued)

Percentage Population Change, 1950-60: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Georgia			Louisiana			Mississippi			North Carolina		
	All	Negro	White	All	Negro	White	All	Negro	White	All	Negro	White
Number of Counties	140	140	140	63	63	63	80	80	80	84	84	84
Mean	2.2	-2.2	6.7	16.5	11.8	19.4	-4.9	-7.2	-2.6	7.8	5.0	8.9
Standard Deviation	23.3	16.4	32.6	32.3	19.1	38.1	16.2	13.0	19.8	15.6	12.6	17.3
Frequency Distribution												
Over 20% decrease	8	15	7	1	2	1	6	6	9	0	0	0
10.1 - 20% decrease	32	30	30	9	3	10	29	31	27	2	4	5
0.1 - 10% decrease	40	37	36	8	10	11	23	27	17	22	26	20
0 - 9.9% increase	24	29	29	14	15	12	11	7	12	33	32	30
10 - 19.9% increase	16	15	14	8	17	6	7	5	7	13	14	15
20 - 29.9% increase	7	8	10	8	7	4	1	3	2	9	3	6
30 - 39.9% increase	4	5	3	4	5	6	1	0	0	3	3	5
40 - 49.9% increase	3	0	1	6	3	4	1	1	4	0	1	1
50% and over increase	6	1	10	5	1	9	1	0	2	2	1	2

Table 14 (Continued)

Percentage Population Change, 1950-1960:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	South Carolina			Tennessee			Texas			Virginia		
	All	Negro	White	All	Negro	White	All	Negro	White	All	Negro	White
Number of Counties	46	46	46	48	48	48	107	107	107	80	80	80
Mean	6.4	-3.1	16.1	2.5	-1.8	2.9	8.0	10.1	8.9	13.3	5.0	15.1
Standard Deviation	17.1	11.1	27.8	13.7	10.0	14.6	30.0	43.0	29.6	29.4	16.6	32.4
Frequency Distribution												
Over 20% decrease	0	3	0	0	1	0	6	12	7	0	2	0
10.1 - 20% decrease	1	8	0	11	7	9	30	29	24	6	8	5
0.1 - 10% decrease	19	17	14	9	25	11	20	19	24	18	20	19
0 - 9.9% increase	13	12	13	17	8	17	9	15	8	24	25	22
10 - 19.9% increase	5	5	6	3	6	3	15	4	14	17	14	17
20 - 29.9% increase	2	1	5	6	1	4	5	7	10	6	4	5
30 - 39.9% increase	3	0	0	2	0	3	8	8	5	1	2	3
40 - 49.9% increase	1	0	3	0	0	1	4	1	4	3	4	4
50% and over increase	2	0	5	0	0	0	10	12	11	5	1	5

Source: United States Bureau of Census, U. S. Census of Population; 1960.

How Computed: $\frac{\text{1960 Population}}{\text{1950 Population}} - 100$

TABLE 15

Percentage of Negroes in Population, 1960:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	31.5	34.9	31.1	22.9	36.8	35.0	44.1	30.5	41.7	16.2	20.1	30.6
Standard Deviation	16.1	21.2	16.0	11.2	16.7	14.5	18.1	16.4	16.1	14.4	11.7	18.3
Frequency Distribution												
below 10%	91	3	4	5	9	1	0	10	0	19	26	14
10 - 19%	150	17	6	21	15	8	9	15	5	17	26	11
20 - 29%	176	9	9	22	25	16	12	16	9	5	34	19
30 - 39%	152	11	12	8	36	15	15	15	9	5	16	10
40 - 49%	107	9	6	3	21	13	15	18	8	0	2	12
50 - 59%	70	3	4	1	18	6	9	8	7	0	3	11
60% and over	66	9	1	1	16	4	20	2	8	2	0	3

Source: United States Bureau of Census, U. S. Census of Population; 1960.

How Computed: $\frac{\text{Number of Negroes}}{\text{Number of Negroes + Number of Whites}}$

TABLE 16

Percentage of Negroes in Population, 1900 :
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	42.0	43.3	43.9	34.5	49.2	49.7	53.7	35.8	59.8	25.4	25.6	43.3
Standard Deviation	18.7	23.6	21.7	18.9	17.7	21.2	21.9	15.6	14.4	16.0	17.9	16.4
Frequency Distribution												
below 10%	45	1	1	8	0	0	0	3	0	6	26	0
10 - 19%	101	12	6	3	10	8	3	16	0	15	18	10
20 - 29%	121	8	3	17	13	6	12	13	2	13	24	10
30 - 39%	115	8	9	14	22	4	11	13	5	5	14	10
40 - 49%	130	10	8	7	20	14	14	21	2	6	13	15
50 - 59%	132	8	4	7	32	12	11	14	12	1	8	23
60% and over	168	14	11	5	43	19	29	4	25	2	4	12

Source: United States Bureau of Census, U. S. Census of Population; 1900.

How Computed: $\frac{\text{Number of Negroes}}{\text{Total Population}}$

TABLE 17

Median Family Income: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	812	812	61	61	42	42	61	61	140	140	63	63
Mean of Counties (in dollars)	1927	4141	1722	4080	1691	3752	2433	4439	1837	4056	1912	4357
Standard Deviation	537	962	490	945	457	766	439	859	488	978	419	1097
Frequency Distribution												
Below $1,000	27	0	4	0	1	0	0	0	1	0	0	0
$1,000 - 1,499	193	0	18	0	19	0	0	0	35	0	10	0
$1,500 - 1,999	268	0	22	0	13	0	10	0	55	0	30	0
$2,000 - 2,499	173	18	12	1	7	0	23	1	33	2	19	1
$2,500 - 2,999	100	77	5	6	1	6	21	2	13	20	4	4
$3,000 - 3,499	39	125	0	11	1	15	7	7	3	19	0	9
$3,500 - 3,999	10	158	0	14	0	8	0	10	0	28	0	15
$4,000 - 4,499	2	146	0	9	0	4	0	10	0	30	0	3
$4,500 - 4,999	0	131	0	10	0	5	0	17	0	19	0	12
$5,000 and over	0	157	0	10	0	4	0	14	0	22	0	19

Table 17 (Continued)

Median Family Income: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	80	80	84	84	46	46	48	48	107	107	80	80
Mean of Counties (in dollars)	1384	3756	1981	4119	1627	4597	1910	3703	2054	4263	2494	4683
Standard Deviation	423	965	568	830	378	589	633	964	677	1096	690	1096
Frequency Distribution												
Below $1,000	13	0	1	0	4	0	3	0	0	0	0	0
$1,000 - 1,499	42	0	20	0	12	0	11	0	22	0	4	0
$1,500 - 1,999	18	0	26	0	21	0	13	0	38	0	22	0
$2,000 - 2,499	5	6	14	2	9	0	11	5	24	0	16	0
$2,500 - 2,999	1	12	20	5	0	0	8	7	8	15	19	0
$3,000 - 3,499	1	18	3	12	0	0	1	10	10	20	13	4
$3,500 - 3,999	0	13	0	19	0	9	1	10	5	9	4	23
$4,000 - 4,499	0	12	0	22	0	9	0	7	0	22	2	18
$4,500 - 4,999	0	12	0	14	0	14	0	3	0	17	0	8
$5,000 and over	0	7	0	10	0	14	0	6	0	24	0	27

Source: United States Bureau of Census, U. S. Census of Population; 1960.

How Computed: Median based on interpolation using grouped data.

TABLE 18

Ratio of Non-white Median Family Income Divided by White Median Family Income: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	.466	.433	.461	.553	.462	.451	.379	.482	.354	.513	.485	.532
Standard Deviation	.099	.117	.126	.084	.097	.085	.100	.109	.068	.095	.109	.082
Frequency Distribution												
Less than .30	48	8	4	0	2	1	19	2	9	1	2	0
.30 - .39	182	14	13	0	35	19	31	18	25	4	19	4
.40 - .49	275	21	9	17	57	26	21	31	10	17	45	21
.50 - .59	211	15	9	26	35	15	7	18	2	18	28	38
.60 - .69	79	2	6	14	9	2	2	13	0	7	9	15
.70 and above	17	1	1	4	2	0	0	2	0	1	4	2

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: $\frac{\text{Non-white median family income}}{\text{white median family income}}$

TABLE 19

Median Education of Adults: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	812	812	61	61	42	42	61	61	140	140	63	63
Mean	6.279	9.793	5.948	9.826	6.533	9.571	6.321	10.508	5.416	9.574	5.024	9.443
Standard Deviation	.894	1.190	.751	1.261	1.033	.897	.996	1.228	.907	1.223	1.084	1.441
Frequency Distribution												
Less than 5 years	105	0	3	0	2	0	7	0	47	0	33	0
5.0 - 5.9	213	0	29	0	12	0	13	0	59	0	18	0
6.0 - 6.9	266	5	23	0	14	0	26	0	26	0	10	5
7.0 - 7.9	172	23	6	0	8	1	13	0	7	3	2	2
8.0 - 8.9	47	232	0	19	6	12	2	9	0	59	0	17
9.0 - 9.9	6	213	0	21	0	15	0	15	0	25	0	16
10.0 - 10.9	1	180	0	7	0	11	0	13	1	29	0	13
11.0 - 11.9	2	100	0	9	0	2	0	13	0	17	0	7
12.0 and over	0	59	0	5	0	1	0	11	0	7	0	3

Table 19 (Continued)

Median Education of Adults:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	80	80	84	84	46	46	48	48	107	107	80	80
Mean	6.121	10.523	6.857	9.500	5.659	10.274	7.133	8.981	7.460	9.792	6.680	9.786
Standard Deviation	.824	1.011	.698	1.110	.640	1.110	.858	.937	1.002	1.223	.891	1.332
Frequency Distribution												
Less than 5 years	8	0	0	0	5	0	0	0	0	0	0	0
5.0 - 5.9	22	0	9	0	26	0	4	0	3	0	18	0
6.0 - 6.9	39	0	35	0	14	0	17	0	30	0	32	0
7.0 - 7.9	10	0	35	6	1	1	18	1	50	4	22	5
8.0 - 8.9	1	3	5	25	0	4	9	36	16	28	8	20
9.0 - 9.9	0	25	0	28	0	11	0	3	6	33	0	21
10.0 - 10.9	0	27	0	16	0	20	0	5	0	22	0	17
11.0 - 11.9	0	15	0	5	0	5	0	2	2	14	0	11
12.0 and over	0	10	0	4	0	5	0	1	0	6	0	6

Source: United States Bureau of Census, U. S. Census of Population; 1960.

How Computed: Median based on interpolation using grouped data. Computed in terms of years of school completed for all adults 25 years old and over.

TABLE 20

Ratio of Non-White Median Education Divided by White Median Education: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	.648	.615	.685	.604	.572	.534	.587	.730	.558	.798	.766	.689
Standard Deviation	.100	.107	.106	.088	.108	.098	.097	.105	.099	.099	.084	.103
Frequency Distribution												
Less than .40	6	0	0	0	2	2	1	0	1	0	0	0
.40 - .49	99	11	0	6	30	20	17	0	13	0	0	2
.50 - .59	198	16	11	25	61	23	22	8	18	0	1	13
.60 - .69	229	19	15	21	29	14	31	32	10	8	14	36
.70 - .79	168	13	8	8	10	4	7	22	2	19	59	16
.80 - .89	89	2	6	1	7	0	2	16	2	14	29	10
.90 - .99	19	0	2	0	1	0	0	5	0	6	2	3
1.0 and over	4	0	0	0	0	0	0	1	0	1	2	0

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: $\frac{\text{Non-white median education}}{\text{White median education}}$

TABLE 21

Percentage of Adult Population with Some College Education: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	812	812	61	61	42	42	61	61	140	140	63	63
Mean	3.8	13.9	3.9	12,9	3.3	11.6	4.3	15.6	3.0	12.9	3.5	13.3
Standard Deviation	2.0	5.4	2.3	6.6	1.7	3.8	2.2	5.9	1.6	5.3	2.1	5.9
Frequency Distribution												
Less than 2%	104	0	4	0	9	0	6	0	35	0	7	0
2 - 3%	400	0	38	0	22	0	21	0	74	0	37	0
4 - 5%	214	16	16	5	7	2	26	0	24	3	16	2
6 - 7%	57	61	0	12	2	5	4	3	5	17	1	3
8 - 9%	25	133	2	8	2	10	3	8	1	29	1	19
10 - 11%	4	143	0	11	0	7	0	7	1	22	0	10
12 - 13%	3	131	0	5	0	8	0	13	0	25	0	8
14 - 15%	2	89	0	4	0	6	1	3	0	13	1	3
16 - 17%	2	80	1	3	0	1	0	8	0	10	0	4
18 - 19%	0	50	0	3	0	1	0	6	0	8	0	6
20% and over	1	109	0	10	0	2	0	13	0	13	0	8

Table 21 (Continued)

Percentage of Adult Population with Some College Education: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	80	80	84	84	46	46	48	48	107	107	80	80
Mean	3.1	15.6	5.0	13.3	4.1	16.3	4.8	10.8	3.1	14.5	5.0	15.3
Standard Deviation	1.3	5.7	2.0	5.3	1.3	4.0	3.3	4.1	1.5	5.1	2.8	6.0
Frequency Distribution												
Less than 2%	14	0	0	0	0	0	4	0	22	0	3	0
2 - 3%	48	0	30	0	22	0	15	0	60	0	33	0
4 - 5%	14	0	34	1	20	0	17	3	19	0	21	0
6 - 7%	4	0	12	6	2	0	8	9	5	3	14	3
8 - 9%	0	8	7	14	2	1	2	17	0	10	5	9
10 - 11%	0	17	0	19	0	6	1	5	1	25	1	14
12 - 13%	0	15	1	11	0	7	0	3	0	25	2	11
14 - 15%	0	10	0	12	0	9	0	4	0	14	0	11
16 - 17%	0	8	0	10	0	11	0	4	0	8	1	13
18 - 19%	0	3	0	4	0	4	0	1	0	8	0	6
20% and over	0	19	0	7	0	8	1	2	0	14	0	13

Source: United States Bureau of Census, U. S. Census of Population; 1960.
How Computed: $\frac{\text{Number of adults 25 and over who have completed at least one year of college education}}{\text{Number of adults 25 and over}}$

TABLE 22

Ratio of Non-white Adult College Education Rate Divided by White Adult College Education Rate: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	.299	.349	.309	.289	.255	.282	.217	.411	.263	.461	.224	.337
Standard Deviation	.165	.199	.137	.123	.162	.131	.108	.224	.086	.293	.107	.171
Frequency Distributions												
Less than .10	36	1	0	2	15	3	8	0	0	0	5	2
.10 - .19	215	12	13	13	50	18	33	6	8	3	48	11
.20 - .29	228	13	10	20	31	15	20	20	26	9	36	28
.30 - .39	172	16	8	10	29	16	13	25	10	13	14	18
.40 - .49	77	7	6	14	5	7	5	15	1	7	1	9
.50 - .59	38	6	4	1	4	4	1	6	1	6	1	4
.60 - .69	24	4	1	1	2	0	0	4	0	7	1	4
.70 - .99	15	1	0	0	3	0	0	6	0	0	1	4
1.0 and over	7	1	0	0	1	0	0	2	0	3	0	0

Source: United States Bureau of Census, U. S. Census of Population: 1960

How Computed:
$$\frac{\text{Percentage of non-white adults who have at least one year of college education}}{\text{Percentage of white adults who have at least one year of college education}}$$

TABLE 23

Population Per Household:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total		Alabama		Arkansas		Florida		Georgia		Louisiana	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	812	812	61	61	42	42	61	61	140	140	63	63
Mean	4.258	3.346	4.374	3.370	3.979	3.267	3.838	3.164	4.485	3.405	4.224	3.463
Standard Deviation	.372	*	.312	*	.281	*	.281	*	.389	*	.357	*
Frequency Distribution												
Below 3.0	0	59	0	3	0	3	0	16	0	1	0	1
3.0 - 3.2	8	207	0	11	1	19	1	19	0	28	0	13
3.3 - 3.5	54	325	0	31	2	13	6	19	0	70	0	21
3.6 - 3.8	139	216	3	15	10	7	29	7	7	40	11	25
3.9 - 4.1	152	3	13	1	19	0	16	0	16	0	20	2
4.2 - 4.4	168	2	23	0	9	0	8	0	43	1	17	1
4.5 - 4.7	147	0	16	0	1	0	1	0	40	0	8	0
4.8 - 5.0	93	0	4	0	0	0	0	0	21	0	6	0
5.1 and over	51	0	2	0	0	0	0	0	13	0	1	0

Table 23 (Continued)

Population Per Household: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Mississippi		North Carolina		South Carolina		Tennessee		Texas		Virginia	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
Number of Counties	80	80	84	84	46	46	48	48	107	107	80	80
Mean	4.504	3.387	4.649	3.462	4.682	3.504	3.900	3.370	3.640	3.142	4.402	3.321
Standard Deviation	.404	*	.474	*	.379	*	.409	*	.279	*	.422	*
Frequency Distribution												
Below 3.0	0	0	0	0	0	0	0	0	0	30	0	5
3.0 - 3.2	0	22	0	12	0	6	0	13	6	48	0	16
3.3 - 3.5	1	40	1	38	0	16	7	22	37	17	0	38
3.6 - 3.8	3	18	4	34	0	24	21	13	40	12	11	21
3.9 - 4.1	10	0	6	0	5	0	11	0	21	0	15	0
4.2 - 4.4	23	0	20	0	7	0	4	0	2	0	12	0
4.5 - 4.7	24	0	14	0	16	0	2	0	1	0	24	0
4.8 - 5.0	13	0	21	0	11	0	2	0	0	0	15	0
5.1 and over	6	0	18	0	7	0	1	0	0	0	3	0

Source: United States Bureau of Census, U. S. Census of Population; 1960.

How Computed: $\frac{\text{Number living in households}}{\text{Total number of households}}$

*Standard Deviation data not available.

TABLE 24

Percentage of Negroes Under 18 Living With Both Parents: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	65.9	63.2	65.5	61.8	65.6	67.3	67.3	67.4	65.8	65.3	65.2	68.6
Standard Deviation	6.1	5.5	5.9	6.8	5.8	6.5	4.9	5.3	4.3	8.0	6.7	6.6
Frequency Distribution												
Less than 60%	124	16	7	26	20	7	5	5	5	8	20	5
60 - 64%	225	22	13	13	43	16	19	20	13	13	34	19
65 - 69%	254	16	9	16	49	16	33	31	20	15	28	21
70 - 74%	154	7	11	4	21	16	16	21	7	8	21	22
75 - 79%	47	0	2	2	5	7	7	7	1	3	2	11
80% and over	8	0	0	0	2	1	0	0	0	1	2	2

Source: U. S. Bureau of Census, U. S. Census of Population; 1960.

How Computed: $\frac{\text{Number of persons under 18 who live with both parents}}{\text{Total number of persons under 18}}$

TABLE 25

Percentage of Work Force in Manufacturing: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	22.6	27.8	21.3	14.7	26.1	16.7	19.9	28.9	30.4	25.2	14.9	24.3
Standard Deviation	10.3	9.6	10.2	7.6	11.2	8.7	8.6	14.3	13.8	9.1	8.4	9.7
Frequency Distribution												
Less than 10%	114	2	7	19	7	15	11	3	1	4	37	8
10 - 14%	118	3	6	17	12	16	16	11	7	2	25	3
15 - 19%	131	6	6	11	31	12	9	18	4	6	15	13
20 - 24%	147	15	10	8	26	8	22	9	5	11	16	17
25 - 29%	105	9	4	2	19	6	13	8	8	11	8	17
30 - 34%	71	13	3	3	13	3	6	6	3	6	3	12
35 - 39%	63	9	5	1	14	2	2	8	5	6	3	8
40% and over	63	4	1	0	18	1	1	21	13	2	0	2

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: $\frac{\text{Number employed in manufacturing industries}}{\text{Total number employed}}$

TABLE 26

Percentage of Work Force in Agriculture :
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	17.9	16.6	21.7	13.5	17.8	14.9	27.4	19.6	17.2	19.6	15.7	14.1
Standard Deviation	12.5	10.9	14.7	10.4	11.8	11.4	16.1	13.8	12.9	13.8	10.9	10.6
Frequency Distribution												
Less than 5%	142	8	7	16	25	14	6	14	8	8	17	19
5 - 14%	242	23	8	22	42	21	14	25	15	11	35	26
15 - 24%	196	19	11	15	27	14	17	14	12	13	31	23
25 - 34%	137	6	5	6	33	10	19	15	7	10	19	7
35 - 44%	66	4	8	1	11	3	11	14	2	2	5	5
45% and over	29	1	3	1	2	1	13	2	2	4	0	0

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: Number employed in agriculture / Total number employed

TABLE 27

Percentage of Negro Work Force in White-Collar Jobs: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	7.2	7.0	7.1	7.0	5.9	7.9	6.0	7.4	6.4	6.9	9.1	8.5
Standard Deviation	3.1	3.3	2.4	2.8	2.6	2.9	2.2	2.8	1.9	2.9	3.8	4.4
Frequency Distribution												
Less than 3%	36	1	1	4	12	0	6	4	1	3	1	3
3 - 4%	142	10	7	9	43	6	20	9	8	11	8	11
5 - 6%	243	23	13	15	49	17	28	30	22	11	18	17
7 - 8%	211	20	14	21	18	24	16	22	10	12	31	23
9 - 10%	92	2	4	8	11	12	7	10	4	6	20	8
11% and over	88	5	3	4	7	4	3	9	1	5	29	18

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: $\dfrac{\text{Number employed as professional, technical, and kindred workers; managers, officials, and non-farm proprietors; and clerical and sales workers}}{\text{Total number employed (whose occupations are reported)}}$

TABLE 23

Percentage of Negro Work Force in Blue-Collar Jobs: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	83.4	79.5	85.2	90.7	87.0	85.3	74.7	80.1	80.6	81.7	85.4	84.3
Standard Deviation	9.3	11.6	6.2	4.3	5.8	8.2	12.3	11.2	11.4	13.5	6.9	9.7
Frequency Distribution												
Less than 60%	38	6	0	0	0	2	10	7	3	6	1	3
60 - 64%	20	3	1	0	0	0	7	4	0	2	1	2
65 - 69%	27	1	0	0	1	1	9	7	3	0	3	2
70 - 74%	40	7	0	0	7	1	7	4	4	2	5	3
75 - 79%	81	5	7	1	9	7	18	10	5	4	10	5
80 - 84%	133	12	8	5	19	14	11	15	8	7	18	16
85 - 89%	259	19	17	14	60	18	11	23	15	12	42	28
90 - 94%	188	8	8	33	39	20	6	13	8	12	24	17
95 - 100%	26	0	1	8	5	0	1	1	0	3	3	4

Source: United States Bureau of Census, U. S. Census of Population; 1960

How Computed: Number employed as craftsmen, foremen, and kindred workers; operatives; private household workers; service workers, farm laborers (except unpaid family members), and other laborers
Total number employed (whose occupations are reported)

TABLE 29

Percentage of Age-Eligible Negroes Registered to Vote: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	781	61	42	61	140	63	80	84	46	17	107	80
Mean	31.3	19.3	28.2	41.2	29.0	30.1	4.1	32.8	12.9	60.7	39.5	21.4
Standard Deviation	18.7	19.5	11.4	20.3	24.4	25.7	7.2	23.8	6.8	24.5	13.4	11.0
Frequency Distribution												
Less than 1%	59	3	0	2	7	7	38	0	1	0	0	1
1 - 10%	147	27	2	2	34	15	33	8	15	1	0	10
11 - 20%	153	12	11	4	20	9	5	28	21	0	7	36
21 - 30%	134	7	11	12	28	6	3	20	9	0	17	21
31 - 40%	96	3	14	11	15	3	1	4	0	1	36	8
41 - 50%	78	3	2	14	13	5	0	5	0	4	29	3
51 - 60%	52	3	1	7	4	10	0	7	0	4	16	0
Over 60%	62	3	1	9	19	8	0	12	0	7	2	1

Source: (All except Tennessee data) Report of United States Commission on Civil Rights, 1959, Government Printing Office, Washington.

Tennessee data obtained from unpublished data in the possession of the United States Commission on Civil Rights.

How Computed: $\frac{\text{Number of registered voters}}{\text{Number in population 21 years of age and over}}$

TABLE 30

Ratio of Negro Voter Registration Rate Divided by White Voter Registration Rate:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	686	61	42	61	139	63	No	84	46	17	93	80
Mean	.464	.271	.466	.461	.355	.402	data	.388	.199	.726	.963	.452
Standard Deviation	.293	.310	.193	.256	.280	.318		.268	.126	.283	.437	.233
Frequency Distribution												
Less than .19	182	39	2	7	52	23	N O	24	25	1	0	9
.20 - .39	162	7	15	17	31	10	D	29	18	0	4	31
.40 - .59	137	7	17	26	27	9	A T	13	3	5	8	22
.60 - .79	91	3	5	4	17	13	A	13	0	3	24	9
.80 - .99	66	3	3	6	8	6		2	0	5	26	7
1.0 and over	48	2	0	1	4	2		3	0	3	31	2

Source: (All except Tennessee data) Report of United States Commission on Civil Rights, 1959, Government Printing Office, Washington.
Tennessee data obtained from unpublished data in the possession of the United States Commission on Civil Rights.

How Computed: $\frac{\text{Number of Negroes registered to vote}}{\text{Number of Negroes 21 and over}} \Big/ \frac{\text{Number of whites registered to vote}}{\text{Number of whites 21 and over}}$

TABLE 31

Number of Lynchings of Negroes Before 1920: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	2.2	3.5	.262	2.3	2.4	3.8	4.0	.464	2.1	2.5	2.0	.700
Standard Deviation	2.9	3.8	.735	4.1	2.6	4.7	3.6	.842	2.4	3.0	2.9	1.1
Frequency Distribution												
None	314	11	35	28	40	14	14	58	12	12	43	47
1 - 2	243	19	6	19	43	18	20	24	18	16	31	29
3 - 4	126	14	1	5	30	15	15	2	11	14	17	2
5 - 6	57	6	0	3	17	6	10	0	3	2	8	2
7 - 8	33	4	0	2	5	4	13	0	1	2	2	0
9 - 10	19	4	0	0	3	2	6	0	0	1	3	0
11 or more	20	3	0	4	2	4	2	0	1	1	3	0

Source: Various editions of Negro Yearbook, Negro Yearbook Publishing Company, Tuskegee, Alabama, and from unpublished records at the Tuskegee Institute, Tuskegee, Alabama.

How Computed: Total number of recorded lynchings of Negroes.

TABKE 32

Number of Lynchings of Negroes 1920 and After:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	.461	.328	.548	.852	.507	.397	1.138	.107	.413	.229	.449	.062
Standard Deviation	.860	.705	.670	1.062	.963	.834	1.412	.348	.858	.472	.914	.244
Frequency Distribution												
None	585	48	23	32	97	48	38	76	32	38	78	75
1	136	7	15	12	28	8	16	7	12	9	17	5
2	57	5	4	12	7	5	12	1	1	1	9	0
3	18	1	0	4	4	1	8	0	0	0	0	0
4	11	0	0	1	3	1	4	0	0	0	2	0
5 or more	5	0	0	0	1	0	2	0	1	0	1	0

Source: Various editions of Negro Yearbook, Negro Yearbook Publishing Company, Tuskegee, Alabama, and from unpublished records at the Tuskegee Institute, Tuskegee, Alabama.

How Computed: Total number of recorded lynchings of Negroes.

TABLE 33

Number of Recent Acts of Racial Violence :
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	812	61	42	61	140	63	80	84	46	48	107	80
Mean	.265	.705	.286	.246	.157	.127	.262	.226	.457	.667	.131	.100
Standard Deviation	1.001	1.918	1.454	.844	.954	.660	.545	.923	.808	1.894	.195	.108
Frequency Distribution												
None	714	47	39	52	134	59	63	75	33	39	100	73
1	58	7	1	7	1	3	13	6	6	4	4	6
2 or more	40	7	2	2	5	1	4	3	7	5	3	1

Sources: New York Times Index; Facts on Film, Southern Educational Reporting Service, Nashville, Tenn.; Intimidation, Reprisal and Violence in the South's Racial Crisis, published jointly by Southeastern Office, American Friends Service Committee, High Point, N. C. Department of Racial and Cultural Relations, National Council of the Churches of Christ in the United States of America, New York, and Southern Regional Council, Atlanta, Ga.

How Computed: Total number of racial incidents involving violence between Jan. 1955 and June 1960.

TABLE 34

Per Pupil Expenditure (in Dollars):
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total			Alabama			Arkansas			Florida		
	All	Negro	White	All	Negro	White	All	Negro	White	All	Negro	White
Number of Counties	810	594	594	61	61	61	42	42	42	61	No data	
Mean	228	167	219	183	145	169	175	150	197	260		
Standard Deviation	30	26	36	13	13	26	24	38	27	34		
Frequency Distribution												
Less than $120	3	60	0	0	1	0	0	13	0	0	N O D A T A	
$120 - 159	59	201	57	1	54	28	11	12	2	0		
$160 - 199	225	224	170	53	6	24	24	15	24	1		
$200 - 239	231	92	200	7	0	9	7	1	13	16		
$240 - 279	179	14	108	0	0	0	0	0	3	34		
$280 - 319	50	2	34	0	0	0	0	1	0	7		
$320 - 359	38	1	14	0	0	0	0	0	0	2		
$360 - 399	8	0	5	0	0	0	0	0	0	0		
$400 and over	17	0	6	0	0	0	0	0	0	1		

Table 34 (Continued)

Per Pupil Expenditure (in Dollars):
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Georgia			Louisiana			Mississippi			North Carolina		
	All	Negro	White	All	Negro	White	All	Negro	White	All	Negro	White
Number of Counties	140	140	140	63	63	63	79	79	79	84	84	84
Mean	236	202	271	342	170	235	183	142	233	200	183	217
Standard Deviation	23	26	54	45	28	35	19	21	36	16	24	23
Frequency Distribution												
Less than $120	0	1	0	0	2	0	0	12	0	0	1	0
$120 - 159	0	4	0	0	20	1	11	49	0	0	10	0
$160 - 199	7	62	5	0	33	9	53	18	12	43	56	15
$200 - 239	77	63	37	0	7	30	15	0	40	38	15	54
$240 - 279	50	10	56	2	1	15	0	0	20	3	2	14
$280 - 319	6	0	20	21	0	7	0	0	6	0	0	0
$320 - 359	0	0	11	22	0	1	0	0	1	0	0	1
$360 - 399	0	0	5	7	0	0	0	0	0	0	0	0
$400 and over	0	0	6	11	0	0	0	0	0	0	0	0

Table 34 (Continued)

Per Pupil Expenditure (in Dollars):
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	South Carolina			Tennessee			Texas			Virginia		
	All	Negro	White	All	Negro	White	All	Negro	White	All	Negro	White
Number of Counties	46	46	46	48	No data		107	No data		79	79	79
Mean	146	121	179	195			273			242	165	178
Standard Deviation	15	19	22	22			48			36	36	25
Frequency Distribution												
Less than $120	3	27	0	0			0			0	3	0
$120 - 159	35	18	8	1	N O		0	N O		0	34	18
$160 - 199	8	1	30	33			1			2	33	51
$200 - 239	0	0	8	11	D A		22	D A		38	6	9
$240 - 279	0	0	0	3	T A		54	T A		33	1	0
$280 - 319	0	0	0	0			12			4	1	1
$320 - 359	0	0	0	0			13			1	1	0
$360 - 399	0	0	0	0			1			0	0	0
$400 and over	0	0	0	0			4			1	0	0

Source: Published and unpublished reports of the state departments of education.

How Computed: $$\frac{\text{Total amount spent for current school operations for 1959-60}}{\text{Total enrollment for 1959-60 (Average daily attendance used in Georgia, Mississippi, and Virginia)}}$$

In Alabama, Louisiana, and Virginia the racial breakdown considers only those expenditures which went for instruction.

TABLE 35

Ratio of Negro Per Pupil Expenditure Divided by White Per Pupil Expenditure: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	594	61	42	No	140	63	79	84	46	No	No	79
Mean	.785	.876	.770	Data	.771	.729	.626	.853	.688	Data	Data	.937
Standard Deviation	.159	.139	.230		.170	.127	.146	.138	.146			.171
Frequency Distribution												
Less than .50	35	0	0		8	1	17	2	7			0
.50 - .59	55	1	8		16	8	13	0	7			2
.60 - .69	103	6	11		20	21	24	6	12			3
.70 - .79	119	7	7		37	13	17	21	6			11
.80 - .89	129	23	8		29	14	5	23	12			15
.90 - .99	82	13	3		16	4	3	21	2			20
1.00 - 1.09	49	7	3		10	2	0	10	0			17
1.10 and over	22	4	2		4	0	0	1	0			11

Source: Published and unpublished reports of the state departments of education.

How Computed:

$$\frac{\text{Total expenditure for current school operations for Negroes}}{\text{Total enrollment in Negro schools}} \Big/ \frac{\text{Total expenditure for current school operations for whites}}{\text{Total enrollment in white schools}}$$

Same exceptions apply as in Table 34.

TABLE 36

Pupils Per Teacher Negro:
MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	809	61	42	61	140	63	79	84	46	48	106	79
Mean	29.9	29.7	32.3	27.4	32.0	30.9	35.8	31.0	32.8	26.0	25.3	25.8
Standard Deviation	4.0	2.5	6.1	2.9	3.2	3.9	4.5	2.2	1.9	3.2	5.8	4.7
Frequency Distribution												
Fewer than 22	42	0	1	4	0	0	0	0	0	4	19	14
22.0 - 24.9	95	2	1	5	3	2	0	0	0	14	47	21
25.0 - 27.9	143	10	8	24	13	13	2	6	0	19	26	22
28.0 - 30.9	202	31	11	23	39	22	7	38	4	8	5	14
31.0 - 33.9	172	17	8	5	48	12	20	29	24	3	2	4
34.0 - 36.9	101	1	3	0	31	10	25	8	18	0	2	3
37.9 - 39.9	26	0	5	0	4	3	10	2	0	0	2	0
40.0 and over	28	0	5	0	2	1	15	1	0	0	3	1

Source: Published and unpublished reports of the state departments of education.

How Computed:

$$\frac{\text{Total enrollment in 1959-60 (average daily attendance used in Va.}}{\text{Total number of teachers in 1959-60 (librarians, and non-teaching principals included in Ga., Texas, and La.}}$$

TABLE 37

Ratio of Negro Pupils Per Teacher Divided by White Pupils Per Teacher: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	809	61	42	61	140	63	79	84	46	48	106	79
Mean	1.185	1.099	1.248	.990	1.193	1.277	1.432	1.116	1.254	1.028	1.191	1.150
Standard Deviation	.208	.135	.209	.122	.238	.168	.297	.108	.166	.175	.232	.255
Frequency Distribution												
Less than 1.00	151	14	5	39	31	1	2	6	0	22	9	22
1.00 - 1.09	177	19	4	13	24	9	4	39	7	12	28	18
1.10 - 1.19	168	17	7	5	25	10	10	25	14	8	34	13
1.20 - 1.29	123	5	8	2	22	18	18	10	11	3	15	11
1.30 - 1.39	70	4	7	2	13	11	11	3	4	1	9	5
1.40 - 1.49	44	2	5	0	7	7	9	0	4	1	5	4
1.50 - 1.59	33	0	6	0	10	5	4	1	5	0	1	1
1.60 and over	43	0	0	0	8	2	21	0	1	1	5	5

Source: Published and unpublished reports of the state departments of education.

How Computed:

$$\frac{\text{Total Negro enrollment in 1959-60}}{\text{Total number of Negro teachers in 1959-60}} \Big/ \frac{\text{Total white enrollment in 1959-60}}{\text{Total number of white teachers in 1959-60}}$$

Same exceptions apply as in Table 36.

TABLE 38

Percentage of Negro Teachers With At Least a B.A. Degree: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	558	61	42	No	140	63	79	No	46	48	No	79
Mean	90.7	95.1	83.6	data	93.6	94.3	83.6	data	96.4	87.5	data	88.8
Standard Deviation	8.5	4.3	11.5		6.4	7.5	11.3		2.4	12.9		9.0
Frequency Distribution												
Less than 73%	24	0	5		1	1	9		0	5		3
73 - 76%	30	0	4	N	3	1	14	N	0	2	N	6
77 - 80%	32	0	8	O	3	2	7	O	0	4	O	8
81 - 84%	38	2	4	D A	7	2	14	D A	0	2	D A	7
85 - 88%	41	5	3	T A	8	5	6	T A	0	7	T A	7
89 - 92%	88	10	8		32	5	6		5	8		14
93 - 96%	136	14	7		33	15	17		17	12		21
97 - 100%	169	30	3		53	32	6		24	8		13

Source: Published and unpublished reports of the state departments of education.

How Computed: $\dfrac{\text{Number of teachers with B.A., B.S. degree, or higher}}{\text{Total number of Teachers (librarians, and non-teaching principals included in Ga. and Texas)}}$

TABLE 39

Ratio of Percentage of Negro Teachers with B.A. Divided by Percentage of White Teachers with B.A.: MEANS, STANDARD DEVIATIONS, AND FREQUENCY DISTRIBUTIONS BY STATE

	Total	Ala.	Ark.	Fla.	Ga.	La.	Miss.	N. C.	S. C.	Tenn.	Texas	Va.
Number of Counties	558	61	42	No	140	63	79	No	46	48	No	79
Mean	1.119	1.109	.995	data	1.151	1.078	.909	data	1.066	1.209	data	1.352
Standard Deviation	.169	.104	.133		.157	.105	.130		.060	.235		.280
Frequency Distribution												
Less than .80	20	0	4	N	0	0	13	N	0	2	N	1
.80 - .89	35	0	5	O	3	3	24	O	0	0	O	0
.90 - .99	74	8	13	D A	19	7	21	D A	2	1	D A	3
1.00 - 1.09	179	23	12	T A	36	35	18	T A	33	10	T A	12
1.10 - 1.19	108	21	5		32	10	3		9	15		13
1.20 - 1.29	57	7	3		28	4	0		2	4		9
1.30 and over	85	2	0		22	4	0		0	16		41

Source: Published and unpublished reports of the state departments of education.

How Computed: $\dfrac{\text{Number of Negro teachers with B.A., B.S. degree, or higher}}{\text{Total number of Negro teachers}} \Big/ \dfrac{\text{Number of white teachers with B.A., B.S. degree, or higher}}{\text{Total number of white teachers}}$

Same exceptions apply as in Table 38.

TABLE 40

WEIGHTED MEAN INTERCORRELATIONS AMONG PERFORMANCE MEASURES -- For All States *

Performance Measure

Performance Measure	% in Average Daily Attendance			Ratio of 12th to 5th Grade Enrollments			% Up to Their Age Cohort in School			% Entering College			% of Age-Eligible Youths in High School			Census Reten-tion Index
	N	W	R	N	W	R	N	W	R	N	W	R	N	W	R	R
% in ADA (N)	---			(802) .344			(688) .398			(709) .128			(808) .420			
% in ADA (W)	(808) .151	---			(808) .468			(691) .259			(719) .033			(810) .229		
% in ADA (R)	(808) .876	(808) -.309	---			(802) .402			(687) .295			(707) .143			(808) .337	(808) .316
12/5 Enrollment (N)		(802) .155	(802) .251	---			(683) .354			(708) -.086			(803) .507			
12/5 Enrollment (W)	(806) -.098		(806) -.307	(803) .130	---			(689) .300			(719) -.066			(809) .304		
12/5 Enrollment (R)	(802) .365	(802) -.123		(803) .784	(803) -.435	---			(682) .347			(707) .071			(803) .453	(803) .483
% w/Age Cohort (N)		(690) .018	(688) .368		(688) -.090	(683) .364	---			(631) .082			(690) .463			
% w/Age Cohort (W)	(689) .122		(689) .001	(684) .036		(684) -.134	(690) .253	---			(641) .233			(691) .419		
% w/Age Cohort (R)	(687) .258	(689) -.201		(682) .215	(687) -.303		(689) .587	(689) -.509	---			(629) .092			(689) .320	(689) .302

Table 40 (Continued)

P e r f o r m a n c e M e a s u r e

Performance Measure	% in Average Daily Attendance			Ratio of 12th to 5th Grade Enrollments			% Up to Their Age Cohort in School			% Entering College			% of Age-Eligible Youths in High School			Census Reten-tion Index
	N	W	R	N	W	R	N	W	R	N	W	R	N	W	R	R
% Entering Col. (N)		(709) -.043	(709) .150		(709) -.123	(709) .006		(630) .143	(630) -.011	--- ---			(710) .059			
% Entering Col. (W)	(717) -.033		(717) -.044	(715) -.153		(715) -.099	(639) .001		(639) -.184	(708) .241	---			(720) .215		
% Entering Col. (R)	(707) .125	(707) -.035		(707) .030	(708) -.055		(629) .050	(629) -.038		(708) .733	(708) -.409	---			(708) .134	(708) .119
% in High School (N)		(810) .110	(808) .343		(809) .036	(803) .419		(691) .190	(689) .213		(720) -.028	(708) .079	---			
% in High School (W)	(808) .049		(808) -.067	(803) .079		(803) -.100	(690) .098		(689) -.224	(710) .045		(708) -.094	(812) .186	---		
% in High School (R)	(808) .343	(810) -.024		(803) .422	(809) -.123		(690) .365	(691) -.077		(710) .029	(720) -.157		(812) .809	(812) -.380	---	(812) .794
Census Retention (R)	(808) .308	(810) -.054		(803) .404	(809) -.216		(690) .344	(691) -.065		(710) .073	(720) -.062		(812) .695	(812) -.248		---

*Numbers in parentheses refer to number of counties on which correlations are based. Correlations above the diagonal are for intra-race relationships (Negro measures vs. Negro measures and white measures vs. white measures) and for relationships among the ratios of Negro ÷ white measures. Below the diagonal are correlations between all other pairs of performance measures.

TABLE 41

SUMMARY: RELATIONSHIPS BETWEEN PREDICTOR VARIABLES AND EACH PERFORMANCE VARIABLE -- FOR ALL ELEVEN STATES

Performance Measure: % in Average Daily Attendance

Predictor Variable	Total Number of Counties with Available Data			Weighted Mean Correlation			Range of Correlations for Middle Five States		
	N	W	R	N	W	R	N	W	R
County Pop.	808	810	808	.087	-.118	.126	.136	.061	.157
% Neg., 1960	808	810	808	-.357	.152	-.421	.210	.300	.206
% Neg., 1900	808	810	808	-.221	.076	-.273	.218	.345	.110
Pop. Change	808	810	808	.203	-.235	.310	.090	.159	.070
Pop. Change (N)	808	810	808	.220	-.198	.308	.234	.197	.223
Pop. Change (W)	808	810	808	.152	-.237	.272	.118	.138	.093
Voter Regis. (N)	777	779	777	.265	-.065	.278	.097	.470	.250
Voter Regis. (R)	683	685	683	.218	-.116	.258	.111*	.255*	.290*
% Wh.-Col. (N)	808	810	808	.133	-.049	.142	.253	.082	.233
% Bl.-Col. (N)	808	810	808	.315	-.076	.346	.146	.362	.062
% in Mfg.	808	810	808	.301	.156	.204	.116	.094	.208
% in Agric.	808	810	808	-.465	-.002	-.438	.087	.143	.048
Med. Inc. (N)	808	810	808	.351	-.161	.414	.281	.249	.143
Med. Inc. (W)	808	810	808	.155	-.071	.173	.067	.116	.110
Med. Inc. (R)	808	810	808	.290	-.121	.346	.105	.263	.149
% Urban	808	810	808	.191	-.115	.230	.163	.206	.268
% w/Col. Ed. (N)	808	810	808	.178	-.034	.190	.145	.061	.136
% w/Col. Ed. (W)	808	810	808	-.009	-.003	-.016	.188	.147	.158
% w/Col. Ed. (R)	808	810	808	.177	-.029	.197	.243	.095	.250
Med. Ed. (N)	808	810	808	.405	-.065	.423	.206	.230	.177
Med. Ed. (W)	808	810	808	.013	-.014	.016	.221	.084	.287
Med. Ed. (R)	808	810	808	.363	-.045	.374	.093	.146	.141
Lynchings to '20	808	810	808	-.058	.009	-.076	.133	.059	.113
Lynchings '20-'61	808	810	808	-.032	.047	-.066	.160	.152	.126
Acts of Viol.	808	810	808	.032	-.031	.037	.132	.099	.102
# in Household (N)	808	810	808	-.311	.084	-.354	.189	.189	.106
# in Household (W)	808	810	808	.007	-.257	.114	.072	.229	.191
% w/Both Par. (N)	808	810	808	.023	.036	.007	.142	.110	.103
Per Pup. Expend.	808	810	808	.162	.095	.125	.319	.176	.359
Per Pup. Exp. (N)	592	594	592	.276	.064	.251	.202*	.214*	.139*
Per Pup. Exp. (W)	592	594	592	-.138	.225	-.230	.202*	.248*	.246*
Per Pup. Exp. (R)	592	594	592	.337	-.114	.385	.141*	.381*	.172*
Pup. Per Teach. (N)	807	809	807	-.492	-.090	-.436	.144	.266	.259
Pup. Per Teach. (R)	807	809	807	-.464	.125	-.508	.127	.406	.120
Teachers' Ed. (N)	556	558	556	.071	.103	.023	.074*	.066*	.124*
Teachers' Ed. (R)	556	558	556	.075	-.075	.111	.145*	.082*	.105*

*Range is for middle four states

TABLE 42

SUMMARY: RELATIONSHIPS BETWEEN PREDICTOR VARIABLES AND EACH PERFORMANCE VARIABLE -- FOR ALL ELEVEN STATES

Performance Measure: Ratio of 12th to 5th Grade Enrollments

Predictor Variable	Total Number of Counties with Available Data			Weighted Mean Correlation			Range of Correlations for Middle Five States		
	N	W	R	N	W	R	N	W	R
County Pop.	803	809	803	-.108	-.250	.013	.106	.135	.246
% Neg., 1960	803	809	803	-.159	.362	-.353	.300	.131	.137
% Neg., 1900	803	809	803	-.180	.170	-.256	.295	.151	.169
Pop. Change	803	809	803	-.131	-.472	.167	.336	.101	.109
Pop. Change (N)	803	809	803	-.159	-.389	.084	.354	.216	.246
Pop. Change (W)	803	809	803	-.154	-.464	.149	.302	.073	.167
Voter Regis. (N)	772	778	772	.221	-.158	.305	.035	.324	.228
Voter Regis. (R)	678	686	678	.166	-.211	.268	.200*	.346*	.162*
% Wh.-Col. (N)	803	809	803	.096	-.097	.125	.083	.087	.075
% Bl.-Col. (N)	803	809	803	.009	-.281	.178	.207	.258	.165
% in Mfg.	803	809	803	.242	-.047	.249	.245	.249	.151
% in Agric.	803	809	803	-.158	.311	-.331	.182	.161	.028
Med. Inc. (N)	803	809	803	-.013	-.405	.231	.223	.108	.206
Med. Inc. (W)	803	809	803	-.183	-.348	.033	.184	.179	.111
Med. Inc. (R)	803	809	803	.172	-.158	.245	.178	.114	.255
% Urban	803	809	803	-.113	-.364	.100	.330	.204	.217
% w/Col. Ed. (N)	803	809	803	.115	-.124	.168	.131	.121	.065
% w/Col. Ed. (W)	803	809	803	-.198	-.046	-.151	.181	.153	.168
% w/Col. Ed. (R)	803	809	803	.286	-.083	.292	.045	.211	.090
Med. Ed. (N)	803	809	803	.252	-.233	.365	.118	.205	.087
Med. Ed. (W)	803	809	803	-.222	-.063	-.146	.210	.157	.159
Med. Ed. (R)	803	809	803	.402	-.149	.442	.198	.236	.097
Lynchings to '20	803	809	803	-.030	.004	-.058	.173	.101	.098
Lynchings '20-'61	803	809	803	-.037	.029	-.057	.042	.084	.066
Acts of Viol.	803	809	803	-.098	-.085	-.043	.086	.101	.088
# in Household (N)	803	809	803	-.151	.199	-.235	.195	.146	.060
# in Household (W)	803	809	803	-.101	-.370	.110	.288	.122	.180
% w/Both Par. (N)	803	809	803	.027	-.014	.062	.208	.100	.113
Per Pup. Expend	802	808	802	.136	.132	.035	.333	.203	.221
Per Pup. Exp. (N)	588	593	588	.305	-.001	.282	.303*	.115*	.148*
Per Pup. Exp. (W)	588	593	588	-.081	.425	-.311	.423*	.289*	.106*
Per Pup. Exp. (R)	588	593	588	.279	-.331	.452	.244*	.124*	.156*
Pup. Per Teach. (N)	801	807	801	-.463	-.028	-.397	.039	.191	.074
Pup. Per Teach. (R)	801	807	801	-.335	.289	-.471	.200	.338	.170
Teachers' Ed. (N)	551	557	551	.046	-.011	.067	.184*	.083*	.241*
Teachers' Ed. (R)	551	557	551	-.011	-.157	.117	.155*	.105*	.165*

*Range is for middle four states

TABLE 43

SUMMARY: RELATIONSHIPS BETWEEN PREDICTOR VARIABLES AND EACH PERFORMANCE VARIABLE -- FOR ALL ELEVEN STATES

Performance Measure: % Up to Their Age Cohort in School

Predictor Variable	Total Number of Counties with Available Data N	W	R	Weighted Mean Correlation N	W	R	Range of Correlations for Middle Six States N	W	R
County Pop.	690	691	689	.174	.137	.048	.309	.228	.190
% Neg., 1960	690	691	689	-.281	.068	-.297	.228	.298	.262
% Neg., 1900	690	691	689	-.220	.109	-.288	.259	.264	.151
Pop. Change	690	691	689	.173	.159	.036	.241	.137	.393
Pop. Change (N)	690	691	689	.187	.118	.076	.390	.277	.406
Pop. Change (W)	690	691	689	.140	.167	.000	.231	.181	.329
Voter Regis. (N)	659	660	658	.190	-.018	.153	.140	.251	.103
Voter Regis. (R)	591	592	590	.194	-.084	.210	.242**	.270**	.099**
% Wh.-Col. (N)	690	691	689	.107	.121	-.001	.281	.191	.149
% Bl.-Col. (N)	690	691	689	.221	-.023	.201	.330	.170	.267
% in Mfg.	690	691	689	.194	.089	.109	.163	.321	.071
% in Agric.	690	691	689	-.339	-.192	-.135	.222	.201	.102
Med. Inc. (N)	690	691	689	.294	.124	.170	.461	.360	.314
Med. Inc. (W)	690	691	689	.154	.248	-.057	.337	.329	.252
Med. Inc. (R)	690	691	689	.200	-.130	.288	.262	.293	.230
% Urban	690	691	689	.207	.167	.053	.358	.261	.259
% w/Col. Ed. (N)	690	691	689	.157	.164	.010	.254	.160	.190
% w/Col. Ed. (W)	690	691	689	.018	.292	-.218	.231	.286	.118
% w/Col. Ed. (R)	690	691	689	.149	-.083	.173	.250	.210	.245
Med. Ed. (N)	690	691	689	.338	.176	.149	.272	.312	.261
Med. Ed. (W)	690	691	689	.041	.397	-.254	.276	.223	.152
Med. Ed. (R)	690	691	689	.261	-.157	.327	.144	.491	.252
Lynchings to '20	690	691	689	-.063	.105	-.115	.158	.102	.227
Lynchings '20-'61	690	691	689	-.006	.065	-.063	.135	.157	.185
Acts of Viol.	690	691	689	.071	.105	-.015	.194	.104	.113
# in Household (N)	690	691	689	-.249	-.072	-.147	.164	.262	.158
# in Household (W)	690	691	689	-.012	-.300	.203	.230	.145	.307
% w/Both Par. (N)	690	691	689	.111	.029	.013	.204	.313	.144
Per Pup. Expend.	690	691	689	.116	.149	.015	.302	.392	.240
Per Pup. Exp. (N)	487	488	487	.217	.133	.087	.333**	.431**	.133**
Per Pup. Exp. (W)	487	488	487	-.088	.169	-.228	.409**	.446**	.239**
Per Pup. Exp. (R)	487	488	487	.266	-.014	.245	.225**	.299**	.364**
Pup. Per Teach. (N)	689	690	688	-.262	-.110	-.126	.470	.356	.250
Pup. per Teach. (R)	689	690	688	-.311	-.052	-.211	.290	.278	.345
Teachers' Ed. (N)	451	452	451	.197	.117	.092	.140**	.299**	.344**
Teachers' Ed. (R)	451	452	451	.075	-.171	.179	.342**	.261**	.442**

**Range is for middle five states

TABLE 44

SUMMARY: RELATIONSHIPS BETWEEN PREDICTOR VARIABLES AND EACH PERFORMANCE VARIABLE -- FOR ALL ELEVEN STATES

Performance Measure: % Entering College

Predictor Variable	Total Number of Counties with Available Data			Weighted Mean Correlation			Range of Correlations for Middle Six States		
	N	W	R	N	W	R	N	W	R
County Pop.	710	720	708	.335	.320	.051	.143	.173	.179
% Neg., 1960	710	720	708	-.114	.163	-.178	.068	.333	.255
% Neg., 1900	710	720	708	-.042	.277	-.197	.124	.244	.193
Pop. Change	710	720	708	.284	.248	.070	.160	.300	.284
Pop. Change (N)	710	720	708	.305	.154	.130	.105	.318	.258
Pop. Change (W)	710	720	708	.259	.273	.037	.159	.259	.270
Voter Regis. (N)	710	720	708	.077	-.188	.188	.194	.289	.215
Voter Regis. (R)	617	626	615	.111	-.178	.222	.230**	.198**	.203**
% Wh.-Col. (N)	710	720	708	.326	.267	.108	.152	.201	.158
% Bl.-Col. (N)	710	720	708	.054	.006	.028	.141	.275	.063
% in Mfg.	710	720	708	-.058	-.195	.063	.186	.209	.203
% in Agric.	710	720	708	-.190	-.163	-.036	.152	.307	.236
Med. Inc. (N)	710	720	708	.313	.160	.133	.074	.347	.208
Med. Inc. (W)	710	720	708	.298	.474	-.056	.160	.198	.233
Med. Inc. (R)	710	720	708	.081	-.294	.233	.097	.294	.121
% Urban	710	720	708	.380	.478	.020	.243	.234	.247
% w/Col. Ed. (N)	710	720	708	.357	.244	.121	.192	.151	.326
% w/Col. Ed. (W)	710	720	708	.207	.670	-.238	.109	.073	.233
% w/Col. Ed. (R)	710	720	708	.149	-.260	.290	.055	.235	.238
Med. Ed. (N)	710	720	708	.314	.116	.156	.120	.390	.278
Med. Ed. (W)	710	720	708	.269	.609	-.162	.198	.113	.132
Med. Ed. (R)	710	720	708	.060	-.356	.262	.230	.348	.224
Lynchings to '20	710	720	708	.059	.228	-.089	.126	.283	.133
Lynchings '20-'61	710	720	708	.018	.116	-.066	.156	.159	.199
Acts of Viol.	710	720	708	.204	.198	.035	.200	.192	.099
# in Household (N)	710	720	708	-.281	-.274	-.078	.223	.154	.350
# in Household (W)	710	720	708	-.115	-.292	.064	.230	.103	.246
% w/Both Par. (N)	710	720	708	-.149	-.227	.002	.148	.276	.327
Per Pup. Expend.	709	719	707	.113	.084	.053	.177	.381	.258
Per Pup. Exp. (N)	553	562	552	.191	.000	.166	.130*	.328*	.118*
Per Pup. Exp. (W)	553	562	552	-.019	.268	-.145	.119*	.110*	.282*
Per Pup. Exp. (R)	553	562	552	.179	-.144	.227	.178*	.298*	.241*
Pup. Per Teach. (N)	709	718	707	-.102	.076	-.133	.296	.339	.279
Pup. Per Teach. (R)	709	718	707	-.158	.099	-.171	.288	.213	.217
Teachers' Ed. (N)	469	478	468	.180	.161	.036	.185**	.380**	.197**
Teachers' Ed. (R)	469	478	468	-.004	-.247	.135	.221**	.181**	.107**

*Range is for middle four states
**Range is for middle five states

TABLE 45

SUMMARY: RELATIONSHIPS BETWEEN PREDICTOR VARIABLES AND EACH PERFORMANCE VARIABLE -- FOR ALL ELEVEN STATES

Performance Measure: % of Age-Eligible Youths in High School

Predictor Variable	Total Number of Counties with Available Data			Weighted Mean Correlation			Range of Correlations for Middle Five States		
	N	W	R	N	W	R	N	W	R
County Pop.	812	812	812	.112	.101	.035	.125	.125	.110
% Neg., 1960	812	812	812	-.231	.170	-.293	.326	.124	.245
% Neg., 1900	812	812	812	-.195	.134	-.243	.064	.059	.315
Pop. Change	812	812	812	.077	-.021	.071	.254	.195	.209
Pop. Change (N)	812	812	812	.078	-.054	.081	.372	.252	.356
Pop. Change (W)	812	812	812	.052	-.008	.047	.233	.175	.175
Voter Regis. (N)	781	781	781	.237	-.053	.249	.125	.236	.068
Voter Regis. (R)	699	699	699	.204	-.087	.233	.130*	.158*	.117*
% Wh.-Col. (N)	812	812	812	.212	.147	.115	.069	.121	.145
% Bl.-Col. (N)	812	812	812	.137	-.078	.154	.097	.123	.263
% in Mfg.	812	812	812	.232	.008	.188	.215	.262	.216
% in Agric.	812	812	812	-.329	-.059	-.254	.150	.258	.205
Med. Inc. (N)	812	812	812	.194	-.021	.170	.192	.328	.344
Med. Inc. (W)	812	812	812	.037	.131	-.059	.127	.114	.193
Med. Inc. (R)	812	812	812	.218	-.176	.296	.279	.170	.236
% Urban	812	812	812	.148	.108	.066	.093	.186	.089
% w/Col. Ed. (N)	812	812	812	.203	.088	.131	.177	.141	.108
% w/Col. Ed. (W)	812	812	812	-.026	.262	-.168	.171	.135	.387
% w/Col. Ed. (R)	812	812	812	.215	-.099	.248	.136	.101	.203
Med. Ed. (N)	812	812	812	.370	.031	.317	.172	.202	.183
Med. Ed. (W)	812	812	812	-.008	.308	-.174	.084	.259	.076
Med. Ed. (R)	812	812	812	.339	-.199	.418	.064	.178	.159
Lynchings to '20	812	812	812	-.028	.131	-.109	.100	.122	.091
Lynchings '20-'61	812	812	812	-.048	.095	-.098	.176	.134	.091
Acts of Viol.	812	812	812	.047	.075	-.007	.057	.092	.047
# in Household (N)	812	812	812	-.302	-.049	-.230	.074	.139	.125
# in Household (W)	812	812	812	-.092	-.291	.073	.086	.139	.159
% w/Both Par. (N)	812	812	812	.045	-.046	.068	.103	.213	.102
Per Pup. Expend.	810	810	810	.132	.148	.025	.292	.181	.283
Per Pup. Exp. (N)	594	594	594	.261	.100	.180	.251*	.171*	.184*
Per Pup. Exp. (W)	594	594	594	-.060	.256	-.198	.249*	.122*	.101*
Per Pup. Exp. (R)	594	594	594	.238	-.102	.270	.264*	.120*	.236*
Pup. Per Teach. (N)	809	809	809	-.367	-.116	-.256	.120	.153	.245
Pup. Per Teach. (R)	809	809	809	-.330	.039	-.304	.143	.115	.175
Teachers' Ed. (N)	558	558	558	.135	.098	.075	.135*	.172*	.171*
Teachers' Ed. (R)	558	558	558	.038	-.127	.112	.129*	.344*	.259*

* Range is for middle four states

TABLE 46

SUMMARY: RELATIONSHIPS BETWEEN PREDICTOR VARIABLES AND EACH PERFORMANCE VARIABLE -- FOR ALL ELEVEN STATES

Performance Measure: Census Retention Index

Predictor Variable	Total Number of Counties with Available Data	Weighted Mean Correlation	Range of Correlations for Middle Five States
	Ratio	Ratio	Ratio
County Pop.	812	.097	.188
% Neg., 1960	812	-.270	.266
% Neg., 1900	812	-.168	.253
Pop. Change	812	.181	.237
Pop. Change (N)	812	.106	.337
Pop. Change (W)	812	.168	.186
Voter Regis. (N)	781	.243	.201
Voter Regis. (R)	699	.213	.141*
% Wh.-Col. (N)	812	.202	.093
% Bl.-Col. (N)	812	.168	.252
% in Mfg.	812	.188	.210
% in Agric.	812	-.312	.140
Med. Inc. (N)	812	.257	.249
Med. Inc. (W)	812	.105	.144
Med. Inc. (R)	812	.218	.205
% Urban	812	.189	.174
% w/Col. Ed. (N)	812	.206	.168
% w/Col. Ed. (W)	812	-.060	.116
% w/Col. Ed. (R)	812	.246	.236
Med. Ed. (N)	812	.348	.144
Med. Ed. (W)	812	-.053	.099
Med. Ed. (R)	812	.361	.153
Lynchings to '20	812	-.059	.071
Lynchings '20-'61	812	-.039	.051
Acts of Viol.	812	.008	.072
# in Household (N)	812	-.269	.070
# in Household (W)	812	.103	.097
% w/Both Par. (N)	812	.016	.119
Per Pup. Expend.	810	.013	.239
Per Pup. Exp. (N)	594	.212	.147*
Per Pup. Exp. (W)	594	-.219	.173*
Per Pup. Exp. (R)	594	.333	.191*
Pup. Per Teach. (N)	809	-.267	.200
Pup. Per Teach. (R)	809	-.321	.172
Teachers' Ed. (N)	558	.103	.214*
Teachers' Ed. (R)	558	.099	.112*

*Range is for middle four states

TABLE 47

OVERALL RANK OF INDEPENDENT VARIABLES IN PREDICTING VARIOUS ABSOLUTE MEASURES OF NEGRO PERFORMANCE*

Predictor Variable	Performance Measures					
	Percentage in Average Daily Attendance	Ratio of 12th to 5th Grade Enrollments	Percentage Up To Age Cohort In School	Percentage of High School Graduates Attending College	Percentage of Age-Eligible Youths in High School	Average Rank as a Predictor**
County Pop.	27 (+)	25 (-)	20 (+)	3 (+)	23 (+)	++++-
% Neg., 1960	6 (-)	16.5 (-)	5 (-)	23 (-)	11 (-)	12.3 (-)
% Neg., 1900	15 (-)	13 (-)	11 (-)	33 (-)	17 (-)	17.8 (-)
Pop. Change	18 (+)	22 (-)	21 (+)	9 (+)	26 (+)	++++-
Pop. Change (N)	16 (+)	16.5 (-)	19 (+)	7 (+)	25 (+)	++++-
Pop. Change (W)	24 (+)	19 (-)	25 (+)	12 (+)	28 (+)	++++-
Voter Regis. (N)	14 (+)	10 (+)	18 (+)	28 (+)	9 (+)	15.8 (+)
Voter Regis. (R)	17 (+)	15 (+)	16.5 (+)	25 (+)	15 (+)	17.7 (+)
% Wh.-Col. (N)	26 (+)	28 (+)	28 (+)	4 (+)	14 (+)	20.0 (+)
% Bl.-Col. (N)	9 (+)	36 (+)	10 (+)	32 (+)	20 (+)	21.4 (+)
% in Mfg.	11 (+)	8 (+)	16.5 (+)	31 (-)	10 (+)	++++-
% in Agric.	2 (-)	18 (-)	1 (-)	16 (-)	5 (-)	8.4 (-)
Med. Inc. (N)	7 (+)	34 (-)	4 (+)	6 (+)	18 (+)	++++-
Med. Inc. (W)	23 (+)	12 (-)	23 (+)	8 (+)	33 (+)	++++-
Med. Inc. (R)	12 (+)	14 (+)	14 (+)	27 (+)	12 (+)	15.8 (+)
% Urban	19 (+)	24 (-)	13 (+)	1 (+)	19 (+)	++++-
% w/Col. Ed. (N)	20 (+)	23 (+)	22 (+)	2 (+)	16 (+)	16.6 (+)
% w/Col. Ed. (W)	35 (-)	11 (-)	34 (+)	13 (+)	35 (-)	++---
% w/Col. Ed. (R)	21 (+)	5 (+)	24 (+)	20.5 (+)	13 (+)	16.7 (+)
Med. Ed. (N)	4 (+)	7 (+)	2 (+)	5 (+)	1 (+)	3.8 (+)
Med. Ed. (W)	34 (+)	9 (-)	33 (+)	11 (+)	36 (-)	+++--
Med. Ed. (R)	5 (+)	2 (+)	8 (+)	29 (+)	3 (+)	9.4 (+)
Lynchings to '20	30 (-)	32 (-)	32 (-)	30 (+)	34 (-)	+----
Lynchings '20-'61	31.5 (-)	31 (-)	36 (-)	35 (+)	29 (-)	+----
Acts of Viol.	31.5 (-)	27 (-)	31 (+)	14 (+)	30 (+)	+++--
# in Household (N)	10 (-)	20 (-)	9 (-)	10 (-)	6 (-)	11.0 (-)
# in Household (W)	36 (+)	26 (-)	35 (-)	22 (-)	24 (-)	+----
% w/Both Par. (N)	33 (+)	33 (+)	27 (+)	20.5 (-)	31 (+)	++++-
Per Pup. Expend.	22 (+)	21 (+)	26 (+)	24 (+)	22 (+)	23.0 (+)
Per Pup. Exp. (N)	13 (+)	4 (+)	12 (+)	15 (+)	7 (+)	10.2 (+)
Per Pup. Exp. (W)	25 (-)	29 (-)	29 (-)	34 (-)	27 (-)	28.8 (-)
Per Pup. Exp. (R)	8 (+)	6 (+)	6 (+)	18 (+)	8 (+)	9.2 (+)
Pup. Per Teach. (N)	1 (-)	1 (-)	7 (-)	26 (-)	2 (-)	7.4 (-)
Pup. Per Teach. (R)	3 (-)	3 (-)	3 (-)	19 (-)	4 (-)	6.4 (-)
Teachers' Ed. (N)	29 (+)	30 (+)	15 (+)	17 (+)	21 (+)	22.4 (+)
Teachers' Ed. (R)	28 (+)	35 (-)	30 (+)	36 (-)	32 (+)	+++--

*Sign in parentheses refers to direction of overall relationship for all eleven states.

**When there is inconsistency in the signs of the correlations between an independent variable and the different performance measures, the average rank is not given. Instead, the number of positive and negative correlations is listed.

TABLE 48

OVERALL RANK OF INDEPENDENT VARIABLES IN PREDICTING VARIOUS ABSOLUTE MEASURES OF WHITE PERFORMANCE*

	Performance Measures					
Predictor Variable	Percentage in Average Daily Attendance	Ratio of 12th to 5th Grade Enrollments	Percentage Up To Age Cohort In School	Percentage of High School Graduates Attending College	Percentage of Age-Eligible Youths in High School	Average Rank as a Predictor**
County Pop.	11 (-)	14 (-)	15 (+)	6 (+)	17 (+)	+++--
% Neg., 1960	8 (+)	8 (+)	30 (+)	24.5 (+)	7 (+)	15.5 (+)
% Neg., 1900	19.5 (+)	18 (+)	23 (+)	9 (+)	10 (+)	15.9 (+)
Pop. Change	3 (-)	1 (-)	12 (+)	15 (+)	33.5 (-)	++---
Pop. Change (N)	5 (-)	5 (-)	20 (+)	28 (+)	27 (-)	++---
Pop. Change (W)	2 (-)	2 (-)	9.5 (+)	11 (+)	35.5 (-)	++---
Voter Regis. (N)	23.5 (-)	19.5 (-)	35 (-)	22 (-)	28 (-)	25.6 (-)
Voter Regis. (R)	12 (-)	16 (-)	27 (-)	23 (-)	23 (-)	20.4 (-)
% Wh.-Col. (N)	26 (-)	25 (-)	19 (+)	13 (+)	9 (+)	+++--
% Bl.-Col. (N)	19.5 (-)	13 (-)	34 (-)	35 (+)	24 (-)	+----
% in Mfg.	7 (+)	29 (-)	26 (+)	21 (-)	35.5 (+)	+++--
% in Agric.	36 (-)	11 (+)	5 (-)	24.5 (-)	26 (-)	+----
Med. Inc. (N)	6 (-)	4 (-)	18 (+)	27 (+)	33.5 (-)	++---
Med. Inc. (W)	22 (-)	9 (-)	4 (+)	4 (+)	11.5 (+)	+++--
Med. Inc. (R)	10 (-)	19.5 (-)	17 (-)	7 (-)	6 (-)	11.9 (-)
% Urban	13 (-)	7 (-)	9.5 (+)	3 (+)	15 (+)	+++--
% w/Col. Ed. (N)	30 (-)	24 (-)	11 (+)	17 (+)	22 (+)	+++--
% w/Col. Ed. (W)	35 (-)	30 (-)	3 (+)	1 (+)	3 (+)	+++--
% w/Col. Ed. (R)	32 (-)	27 (-)	28 (-)	14 (-)	19 (-)	24.0 (-)
Med. Ed. (N)	23.5 (-)	15 (-)	6 (+)	30.5 (+)	32 (+)	+++--
Med. Ed. (W)	33 (-)	28 (-)	1 (+)	2 (+)	1 (+)	+++--
Med. Ed. (R)	28 (-)	22 (-)	13 (-)	5 (-)	5 (-)	14.6 (-)
Lynchings to '20	34 (+)	35 (+)	24.5 (+)	18 (+)	11.5 (+)	24.6 (+)
Lynchings '20-'61	27 (+)	31 (+)	31 (+)	30.5 (+)	21 (+)	28.1 (+)
Acts of Viol.	31 (-)	26 (-)	24.5 (+)	20 (+)	25 (+)	+++--
# in Households (N)	18 (+)	17 (+)	29 (-)	10 (-)	29 (-)	++---
# in Households (W)	1 (-)	6 (-)	2 (-)	8 (-)	2 (-)	3.8 (+)
% w/Both Par. (N)	29 (+)	33 (-)	33 (+)	19 (-)	30 (-)	++---
Per Pup. Expend.	16 (+)	23 (+)	14 (+)	33 (+)	8 (+)	18.8 (+)
Per Pup. Expend. (N)	25 (+)	36 (-)	16 (+)	36 (+)	18 (+)	++++-
Per Pup. Expend. (W)	4 (+)	3 (+)	8 (+)	12 (+)	4 (+)	6.2 (+)
Per Pup. Expend. (R)	14 (-)	10 (-)	36 (-)	29 (-)	16 (-)	21.0 (-)
Pup. Per Teach. (N)	17 (-)	32 (-)	22 (-)	34 (+)	14 (-)	+----
Pup. Per Teach. (R)	9 (+)	12 (+)	32 (-)	32 (+)	31 (+)	++++-
Teachers' Ed. (N)	15 (+)	34 (-)	21 (+)	26 (+)	20 (+)	++++-
Teachers' Ed. (R)	21 (-)	21 (-)	7 (-)	16 (-)	13 (-)	15.6 (-)

*Sign in parentheses refers to direction of overall relationship for all eleven states.

**When there is inconsistency in the signs of the correlations between an independent variable and the different performance measures, the average rank is not given. Instead, the number of positive and negative correlations is listed.

TABLE 49

OVERALL RANK OF INDEPENDENT VARIABLES IN PREDICTING RELATIVE PERFORMANCE OF NEGROES*

Predictor Variable	Performance Measures Percentage in Average Daily Attendance	Ratio of 12th to 5th Grade Enrollments	Percentage Up To Age Cohort In School	Percentage of High School Graduates Attending College	Percentage of Age Eligible Youths in High School	Census Retention Index	Average Rank as a Predictor**
County Pop.	26 (+)	36 (+)	29 (+)	29 (+)	34 (+)	29 (+)	30.5 (+)
% Neg., 1960	5 (-)	6 (-)	2 (-)	9 (-)	5 (-)	6 (-)	5.5 (-)
% Neg., 1900	15 (-)	13 (-)	3.5 (-)	7 (-)	11 (-)	22 (-)	11.9 (-)
Pop. Change	12 (+)	20 (+)	30 (+)	23 (+)	29 (+)	20 (+)	22.3 (+)
Pop. Change (N)	13 (+)	28 (+)	25 (+)	18 (+)	26 (+)	24 (+)	22.3 (+)
Pop. Change (W)	16 (+)	22 (+)	36 (+)	30 (+)	33 (+)	22 (+)	26.5 (+)
Voter Regis. (N)	14 (+)	9 (+)	16 (+)	8 (+)	9 (+)	11 (+)	11.2 (+)
Voter Regis. (R)	17 (+)	12 (+)	10 (+)	6 (+)	12 (+)	14 (+)	11.8 (+)
% Wh.-Col. (N)	25 (+)	24 (+)	35 (-)	20 (+)	22 (+)	17 (+)	+++++-
% Bl.-Col. (N)	10.5 (+)	18 (+)	12 (+)	34 (+)	20 (+)	22 (+)	19.4 (+)
% in Mfg.	21 (+)	14 (+)	22 (+)	26 (+)	15 (+)	19 (+)	19.5 (+)
% in Agric.	2 (-)	7 (-)	19 (-)	31.5 (-)	8 (-)	5 (-)	12.8 (-)
Med. Inc. (N)	6 (+)	17 (+)	15 (+)	16.5 (+)	18 (+)	9 (+)	13.6 (+)
Med. Inc. (W)	24 (+)	35 (+)	27 (-)	27 (-)	32 (-)	25 (+)	+++---
Med. Inc. (R)	10.5 (+)	15 (+)	3.5 (+)	4 (+)	4 (+)	13 (+)	8.3 (+)
% Urban	19.5 (+)	27 (+)	28 (+)	35 (+)	31 (+)	18 (+)	26.4 (+)
% w/Col. Ed. (N)	23 (+)	19 (+)	34 (+)	19 (+)	21 (+)	16 (+)	21.8 (+)
% w/Col. Ed. (W)	34.5 (-)	21 (-)	8 (-)	3 (-)	19 (-)	30 (-)	19.3 (-)
% w/Col. Ed. (R)	22 (+)	10 (+)	14 (+)	1 (+)	10 (+)	10 (+)	11.2 (+)
Med. Ed. (N)	4 (+)	5 (+)	17 (+)	13 (+)	2 (+)	2 (+)	7.2 (+)

Table 49 (Continued)

Predictor Variable	Percentage in Average Daily Attendance	Ratio of 12th to 5th Grade Enrollments	Percentage Up To Age Cohort In School	Percentage of High School Graduates Attending College	Percentage of Age Eligible Youths in High School	Census Retention Index	Average Rank as a Predictor**
	Performance Measures						
Med. Ed. (W)	34.5 (+)	23 (-)	5 (-)	12 (-)	17 (-)	32 (-)	+-----
Med. Ed. (R)	8 (+)	3 (+)	1 (+)	2 (+)	1 (+)	1 (+)	2.7 (+)
Lynchings to '20	30 (-)	31 (-)	21 (-)	21 (-)	24 (-)	31 (-)	26.3 (-)
Lynchings '20-'61	31 (-)	32 (-)	26 (-)	24 (-)	25 (-)	33 (-)	28.5 (-)
Acts of Viol.	32 (+)	33 (-)	31.5 (-)	33 (+)	36 (-)	36 (+)	+++---
# in Household (N)	9 (-)	16 (-)	18 (-)	22 (-)	13 (-)	7 (-)	14.2 (-)
# in Household (W)	28 (+)	26 (+)	11 (+)	25 (+)	28 (+)	26.5 (+)	24.1 (-)
% w/Both Par. (N)	36 (+)	30 (+)	33 (+)	36 (+)	30 (+)	34 (+)	33.1 (+)
Per Pup. Expend.	27 (+)	34 (+)	31.5 (+)	28 (+)	35 (+)	35 (+)	31.8 (+)
Per Pup. Exp. (N)	18 (+)	11 (+)	24 (+)	11 (+)	16 (+)	15 (+)	15.8 (+)
Per Pup. Exp. (W)	19.5 (-)	8 (-)	7 (-)	14 (-)	14 (-)	12 (-)	12.4 (-)
Per Pup. Exp. (R)	7 (+)	2 (+)	6 (+)	5 (+)	6 (+)	3 (+)	4.8 (+)
Pup. Per Teach. (N)	3 (-)	4 (-)	20 (-)	16.5 (-)	7 (-)	8 (-)	9.8 (-)
Pup. Per Teach. (R)	1 (-)	1 (-)	9 (-)	10 (-)	3 (-)	4 (-)	4.7 (-)
Teachers' Ed. (N)	33 (+)	29 (+)	23 (+)	31.5 (+)	27 (+)	26.5 (+)	28.3 (+)
Teachers' Ed. (R)	29 (+)	25 (+)	13 (+)	15 (+)	23 (+)	28 (+)	22.2 (+)

*Sign in parentheses refers to direction of overall relationship for all eleven states.

**When there is inconsistency in the signs of the correlations between an independent variable and the different performance measures, the average rank is not given. Instead, the number of positive and negative correlations is listed.

TABLE 50

CORRELATIONS BETWEEN PERCENTAGE BLUE-COLLAR AND MEASURES OF ABSOLUTE AND RELATIVE NEGRO EDUCATIONAL PERFORMANCE, CONTROLLING FOR URBANISM

	Negro Performance	
Performance Measure	Absolute	Relative
ADA	.276	.300
12/5 Ratio	.043	.156
Non-retardation	.173	.194
College entrance	-.062	.023
High school enrollment	.100	.141
Census retention rat[illegible]	--	.121

TABLE 51

CORRELATIONS BETWEEN PERCENTAGE IN MANUFACTURING AND MEASURES OF ABSOLUTE AND RELATIVE NEGRO EDUCATIONAL PERFORMANCE, CONTROLLING FOR URBANISM

	Negro Performance	
Performance Measure	Absolute	Relative
ADA	.299	.201
12/5 ratio	.249	.246
Non-retardation	.190	.107
College entrance	-.080	.062
High school enrollment	.229	.186
Census retention ratio	--	.183

TABLE 52

PARTIAL CORRELATIONS BETWEEN SELECTED INDEPENDENT VARIABLES AND ABSOLUTE MEASURES OF NEGRO PERFORMANCE, USING VARIOUS CONTROLS AND VARIOUS LEVELS OF PARTIALLING

		Performance Measures					
Ind. Var.*	Cont. Var.*	ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	H.S. Enroll.	Average
1	None	-.357	-.159	-.281	-.114	-.231	-.228
	2	-.159	-.093	-.135	-.020	-.079	-.096
	3	-.186	-.033	-.130	.062	-.047	-.067
	4	-.279	-.115	-.215	-.018	-.141	-.152
	5	-.283	-.048	-.219	-.044	-.147	-.148
	6	-.177	.059	-.135	-.090	.020	-.065
	2,3,4,5	-.076	.024	-.056	.114	.041	.009
	2,3,4,6	-.048	.112	-.032	.137	.039	.041
2	None	-.465	-.158	-.339	-.190	-.329	-.296
	1	-.353	-.090	-.237	-.154	-.253	-.217
	3	-.306	-.013	-.184	-.007	-.148	-.132
	4	-.392	-.108	-.271	-.090	-.240	-.220
	5	-.411	-.061	-.289	-.135	-.265	-.232
	6	-.367	-.027	-.249	-.120	-.252	-.203
	1,3,4,5	-.227	.037	-.116	.047	-.077	-.067
	1,3,4,6	-.223	.054	-.113	.060	-.077	-.060
3	None	.405	.252	.338	.314	.370	.336
	1	.274	.201	.233	.300	.300	.262
	2	.183	.199	.182	.255	.231	.210
	4	.333	.216	.277	.240	.296	.272
	5	.339	.156	.284	.267	.305	.270
	6	.296	.142	.250	.264	.301	.251
	1,2,4,5	.083	.141	.198	.232	.184	.168
	1,2,4,6	.093	.158	.203	.239	.197	.178
4	None	-.311	-.151	-.249	-.302	-.281	-.259
	1	-.213	-.104	-.168	-.259	-.243	-.197
	2	-.156	-.098	-.133	-.228	-.198	-.163
	3	-.198	-.070	-.158	-.193	-.200	-.164
	5	-.261	-.082	-.206	-.246	-.255	-.210
	6	-.240	-.079	-.189	-.244	-.253	-.201
	1,2,3,5	-.115	-.049	-.094	-.204	-.163	-.125
	1,2,3,6	-.121	-.070	-.099	-.211	-.171	-.135

Table 52 (Continued)

		Performance Measures					
Ind. Var.*	Cont. Var.*	ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	H.S. Enroll.	Average
	None	.276	.305	.217	.191	.261	.250
5	1	.161	.268	.123	.160	.192	.181
	2	.143	.271	.115	.137	.169	.179
	3	.147	.235	.104	.084	.143	.143
	4	.216	.280	.165	.131	.201	.199
	1,2,3,4	.083	.231	.054	.085	.112	.113
	None	.337	.279	.266	.179	.238	.260
6	1	.125	.240	.098	.141	.107	.142
	2	.143	.234	.124	.101	.094	.139
	3	.180	.188	.128	.036	.077	.122
	4	.274	.250	.214	.168	.110	.203
	1,2,3,4	.046	.217	.042	.099	.043	.089

*Variables are numbered as follows:

1 - Percentage Negro (1960)
2 - Percentage in agriculture
3 - Median education (N)
4 - Population per household (N)
5 - Per pupil expenditures (N)
6 - Per pupil expenditures (R)

TABLE 53

MULTIPLE CORRELATIONS BETWEEN FIVE INDEPENDENT VARIABLES AND ABSOLUTE MEASURES OF NEGRO PERFORMANCE

	Dependent Measure					
Independent Variables*	ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	H.S. Enroll.	Average
1, 2, 3, 4, 5	.512	.344	.399	.432	.385	.414
1, 2, 3, 4, 6	.509	.335	.398	.422	.388	.410

* Variables are numbered as follows:

1 - Percentage Negro (1960)
2 - Percentage in agriculture
3 - Median education (N)
4 - Population per household (N)
5 - Per pupil expenditures (N)
6 - Per pupil expenditures (R)

TABLE 54

PARTIAL CORRELATIONS BETWEEN SELECTED INDEPENDENT VARIABLES AND ABSOLUTE MEASURES OF WHITE PERFORMANCE, USING VARIOUS CONTROLS AND VARIOUS LEVELS OF PARTIALLING

Ind. Var.*	Cont. Var.*	Performance Measures					
		ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	H. S. Enroll.	Average
1	None	.152	.362	.068	.163	.170	.183
	2	.145	.347	.100	.248	.188	.206
	3	.100	.337	-.010	-.012	.084	.100
	4	.157	.380	-.003	.071	.123	.146
	5	.155	.342	-.029	-.058	.068	.096
	6	.111	.323	.014	.117	.127	.138
	7	.028	.157	-.037	.010	.028	.037
	2,4,6,7	.033	.122	-.027	.064	.030	.044
	2,5,6,7	.045	.107	-.031	-.018	.010	.023
	3,4,6,7	-.020	.140	-.038	-.054	.006	.007
	3,5,6,7	.026	.199	-.111	-.192	-.046	-.025
2	None	-.071	-.348	.248	.474	.131	.087
	1	-.055	-.332	.258	.502	.153	.105
	4	-.084	-.416	-.031	.105	-.112	-.108
	5	-.080	-.386	.226	.445	.099	.061
	6	-.070	-.370	.263	.498	.140	.092
	7	-.073	-.386	.252	.491	.135	.084
	1,4,6,7	.027	-.270	.010	.181	-.028	-.016
	1,5,6,7	-.050	-.368	.234	.462	.119	.079
3	None	-.121	-.158	-.130	-.294	-.176	-.176
	1	-.040	.070	-.111	-.247	-.097	-.085
	4	-.131	-.186	-.010	-.144	-.091	-.112
	5	-.118	-.087	-.046	-.108	-.073	-.086
	6	-.092	-.119	-.096	-.270	-.146	-.145
	7	-.044	-.036	-.085	-.233	-.108	-.101
	1,4,6,7	-.080	-.007	-.021	-.136	-.043	-.057
	1,5,6,7	-.077	-.026	-.063	-.153	-.063	-.066
4	None	-.014	-.063	.397	.609	.308	.247
	1	-.042	-.138	.392	.597	.287	.219
	2	.046	.251	.315	.430	.300	.268
	3	-.054	-.118	.378	.571	.271	.210
	6	-.074	-.158	.357	.585	.262	.194
	7	-.096	-.236	.367	.573	.245	.171

TABLE 54 (Continued)

Ind. Var.*	Cont. Var.*	Performance Measures ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	H.S. Enroll.	Average
	1,2,6,7	-.104	-.360	.242	.323	.177	.056
	1,3,6,7	-.139	-.271	.333	.529	.208	.132
5	None	-.045	-.149	-.157	-.356	-.199	-.181
	1	.053	.082	-.144	-.325	-.125	-.092
	2	-.059	-.231	-.118	-.311	-.179	-.180
	3	.034	-.068	-.099	-.235	-.119	-.097
	6	-.017	-.116	-.130	-.340	-.175	-.156
	7	.054	.033	-.097	-.279	-.106	-.079
	1,2,6,7	.052	.004	-.066	-.206	-.074	-.058
	1,3,6,7	.096	.098	-.103	-.246	-.080	-.047
6	None	-.257	-.370	-.300	-.292	-.291	-.302
	1	-.236	-.332	-.294	-.270	-.268	-.280
	2	-.257	-.391	-.312	-.338	-.295	-.319
	3	-.245	-.356	-.288	-.268	-.275	-.286
	4	-.266	-.394	-.240	-.207	-.241	-.270
	5	-.254	-.359	-.287	-.272	-.276	-.290
	7	-.197	-.266	-.256	-.223	-.225	-.233
	1,2,4,7	-.214	-.362	-.235	-.214	-.197	-.244
	1,2,5,7	-.196	-.289	-.276	-.273	-.231	-.253
	1,3,4,7	-.211	-.312	-.237	-.188	-.201	-.230
	1,3,5,7	-.193	-.274	-.264	-.235	-.224	-.238
7	None	.225	.425	.169	.268	.256	.269
	1	.170	.283	.160	.216	.197	.205
	2	.226	.454	.174	.303	.258	.283
	3	.200	.401	.137	.197	.217	.230
	4	.243	.473	.045	.092	.172	.205
	5	.226	.403	.119	.142	.195	.217
	6	.153	.344	.075	.189	.175	.187
	1,2,4,6	.139	.349	-.002	.040	.070	.119
	1,2,5,6	.122	.255	.056	.108	.111	.130
	1,3,4,6	.145	.272	-.001	.035	.080	.106
	1,3,5,6	.127	.216	.074	.137	.125	.136

*Variables are numbered as follows:

1 - Percentage Negro
2 - Median income (W)
3 - Median income (R)
4 - Median education (W)
5 - Median education (R)
6 - Population per household (W)
7 - Per pupil expenditures (W)

TABLE 55

MULTIPLE CORRELATIONS BETWEEN INDEPENDENT VARIABLES AND ABSOLUTE MEASURES OF WHITE PERFORMANCE

	Performance Measures					
Ind. Var.*	ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	H.S. Enroll.	Average
1, 2, 4, 6, 7	.321	.671	.456	.399	.646	.498
1, 2, 5, 6, 7	.309	.607	.404	.370	.614	.461
1, 3, 4, 6, 7	.328	.564	.455	.401	.640	.478
1, 3, 5, 6, 7	.314	.520	.343	.358	.478	.403

* Variables are numbered as follows:

1 - Percentage Negro
2 - Median income (W)
3 - Median income (R)
4 - Median education (W)
5 - Median education (R)
6 - Population per household (W)
7 - Per pupil expenditures (W)

TABLE 56

PARTIAL CORRELATIONS BETWEEN SELECTED INDEPENDENT VARIABLES AND RELATIVE MEASURES OF NEGRO PERFORMANCE, USING VARIOUS CONTROLS AND VARIOUS LEVELS OF PARTIALLING

		Performance Measures						
Ind. Var.*	Cont. Var.*	ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	Cens. Retent. Ratio	H.S. Enroll.	Average
1	None	-.421	-.353	-.297	-.178	-.270	-.293	-.302
	2	-.256	-.228	-.267	-.186	-.137	-.197	-.212
	3	-.287	-.267	-.166	-.053	-.181	-.155	-.185
	4	-.269	-.132	-.139	-.033	-.079	-.068	-.120
	5	-.226	-.050	-.179	-.023	-.050	-.119	-.108
	6	-.342	-.317	-.309	-.164	-.220	-.290	-.274
	7	-.375	-.341	-.296	-.182	-.224	-.298	-.284
	2,3,4,5,6,7	-.029	.060	-.082	.067	.097	.023	.023
2	None	-.438	-.331	-.135	-.036	-.312	-.254	-.251
	1	-.287	-.189	.019	.064	-.210	-.127	-.122
	3	-.375	-.279	-.055	.036	-.266	-.183	-.187
	4	-.372	-.236	-.044	.043	-.233	-.153	-.166
	5	-.311	-.144	-.019	.087	-.182	-.146	-.119
	6	-.337	-.290	-.138	.002	-.259	-.258	-.213
	7	-.383	-.331	-.127	-.030	-.254	-.261	-.231
	1,3,4,5,6,7	-.207	-.158	.007	.117	-.123	-.136	-.083
3	None	.346	.245	.288	.233	.218	.296	.271
	1	.136	.051	.148	.161	.077	.161	.122
	2	.253	.164	.262	.232	.139	.239	.215
	4	.164	-.028	.122	.098	.003	.063	.070
	5	.218	.064	.209	.154	.089	.208	.157
	6	.314	.223	.286	.225	.194	.289	.255
	7	.348	.243	.287	.232	.216	.295	.270
	1,2,4,5,6,7	.075	-.083	.083	.105	-.009	.040	.035
4	None	.374	.442	.327	.262	.361	.418	.364
	1	.175	.311	.199	.198	.261	.317	.244
	2	.287	.383	.303	.263	.298	.373	.318
	3	.222	.380	.201	.157	.294	.315	.262
	5	.220	.285	.240	.173	.235	.337	.248
	6	.380	.442	.326	.260	.359	.416	.364
	7	.378	.441	.327	.261	.363	.417	.366
	1,2,3,5,6,7	.153	.273	.132	.138	.245	.255	.199

TABLE 56 (Continued)

		Performance Measures						
Ind. Var.*	Cont. Var.*	ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	Cens. Retent. Ratio	H.S. Enroll.	Average
5	None	.385	.452	.245	.227	.333	.270	.285
	1	.134	.305	.047	.145	.207	.091	.155
	2	.220	.353	.208	.240	.219	.174	.236
	3	.279	.396	.141	.146	.272	.167	.234
	4	.240	.290	.093	.109	.182	.067	.164
	6	.306	.426	.250	.217	.291	.263	.292
	7	.340	.445	.241	.232	.295	.263	.303
	1,2,3,4,6,7	.040	.229	.025	.125	.116	.013	.091
6	None	.310	.167	.036	.070	.181	.071	.139
	1	.171	.031	-.094	-.001	.084	-.052	.023
	2	.093	-.019	-.046	.060	.013	-.084	.003
	3	.274	.133	-.013	.033	.151	.023	.100
	4	.317	.165	.023	.061	.178	.058	.134
	5	.195	-.001	-.061	-.015	.065	-.032	.025
	7	.226	.135	.008	.071	.094	.042	.096
	1,2,3,4,5,7	.101	.025	-.049	.068	.045	-.033	.026
7	None	.230	.100	.053	.020	.189	.066	.110
	1	.104	-.020	-.051	-.042	.109	-.036	.011
	2	-.013	-.103	-.025	.000	.023	-.090	-.035
	3	.234	.094	.046	.013	.187	.060	.106
	4	.238	.099	.048	.013	.193	.062	.109
	5	.128	-.044	.023	-.053	.098	-.017	.023
	6	.075	.010	.039	-.022	.109	.032	.061
	1,2,3,4,5,6	.002	-.079	.021	.031	.066	-.018	.004

* Variables are numbered as follows:

1 - Percentage Negro (1960)
2 - Percentage in agriculture
3 - Median income (R)
4 - Median education (R)
5 - Per pupil expenditures (R)
6 - Population change (1950-60)
7 - Percentage urban

TABLE 57

MULTIPLE CORRELATIONS BETWEEN RELATIVE MEASURES OF NEGRO PERFORMANCE AND SEVEN INDEPENDENT VARIABLES*

Measure of Performance	Multiple Correlation
Average Daily Attendance	.536
12th-to-5th-Grade Ratio	.556
Non-Retardation Rate	.370
College Entrance Rate	.362
Census Retention Ratio	.444
High School Enrollment Rate	.444
Average Correlation	.452

* 1 - Percentage Negro (1960)
2 - Percentage in agriculture
3 - Median income (R)
4 - Median education (R)
5 - Per pupil expenditures (R)
6 - Population change (1950-60)
7 - Percentage urban

TABLE 58

ZERO-ORDER AND MULTIPLE CORRELATIONS BETWEEN BEST PREDICTOR VARIABLES AND MEASURES OF EDUCATIONAL PERFORMANCE

	Measures of Performance						
Ind. Var.*	ADA	12/5 Ratio	Non-Retard.	Coll. Ent.	H.S. Enroll.	Cens. Retent. Ratio	Average
			(Absolute Negro)				
1	.405	.252	.157	.314	.370	--	.300
2	-.311	-.151	-.249	-.281	-.302	--	-.260
3	.276	.305	.217	.191	.261	--	.250
1,2	.443	.261	.369	.363	.414	--	.370
1,3	.427	.339	.352	.324	.393	--	.367
2,3	.373	.317	.296	.308	.357	--	.330
1,2,3	.457	.341	.377	.367	.428	--	.394
			(Absolute White)				
1	-.014	-.063	.292	.609	.308	--	.226
2	-.257	-.370	-.300	-.292	-.291	--	-.302
3	.225	.425	.169	.268	.256	--	.269
1,2	.267	.398	.454	.631	.384	--	.427
1,3	.243	.477	.399	.613	.349	--	.416
2,3	.296	.489	.309	.344	.336	--	.355
1,2,3	.319	.547	.455	.632	.393	--	.469
			(Relative Negro)				
1	.374	.442	.173	.262	.418	.361	.338
3	.385	.452	.245	.227	.270	.333	.319
4	-.438	-.331	-.135	-.036	-.254	-.312	-.251
1,3	.435	.513	.339	.282	.422	.399	.398
1,4	.508	.490	.329	.265	.441	.421	.409
3,4	.481	.470	.246	.243	.305	.375	.353
1,3,4	.516	.525	.338	.297	.441	.430	.425

*Variables are numbered as follows:

1 - Median education
2 - Population per household
3 - Per pupil expenditure
4 - Percentage employed in agriculture

With the exception of agricultural employment (which is for the entire population), measures of independent variables cover the same population as the performance measures with which they are correlated; e.g., absolute Negro education is related to absolute measures of Negro performance, etc.